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# An Analysis of Rangeland Preservation in Western States

Ian Howell

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# An Analysis of Rangeland Preservation in Western States

## **Abstract**

Rangelands cover a vast portion of the U.S., providing myriad environmental services (e.g. clean water, open space, wildlife habitat). The majority of these working landscapes are privately owned and are situated on the wettest and most productive lands in the West, but ranchers often require access to public grazing lands to feed their cattle. Ranchers face narrow profit margins, and many are rich in land, but lack substantial cash income. As the nation's population continues to grow, western rangelands become increasingly threatened by development. Subdivision and residential development of a ranch can negatively affect neighboring ranch businesses, displace native wildlife, and upset the local tax base. Each state addresses agricultural land preservation with a unique mix of tools, funding sources, and local expertise. Furthermore, federal land preservation funding is unevenly distributed across states, and public attitudes towards agriculture and land conservation vary. Land trust organizations facilitate preservation using conservation easements, which keep working lands working and in private ownership, while restricting most development.

I explore the literature on rangelands, agricultural data, ballot measure trends, and case studies to present circumstances that facilitate and impede private rangeland preservation. In California, well-designed land planning tools support farms and ranches, but the state has relied on unsustainable debt financing to purchase agricultural conservation easements. Colorado has established a successful funding mechanism and an innovative tax credit program for conservation easements, but allows land-consumptive subdivision. Both states benefit from an agricultural land trust founded by their professional cattlemen's associations. The California Rangeland Trust and the Colorado Cattlemen's Agricultural Land Trust have earned the trust of livestock growers and use available state, local, and private funds to protect working ranches.

# AN ANALYSIS OF RANGELAND PRESERVATION IN WESTERN STATES

Ian Howell

Master of Environmental Studies, University of Pennsylvania

Spring 2012

Thomas Daniels, Ph.D.

Dept. of City & Regional Planning, School of Design, University of Pennsylvania

Sarah Willig, Ph.D.

Dept. of Earth & Env Science, School of Arts & Sciences, University of Pennsylvania

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ABSTRACT

AN ANALYSIS OF RANGELAND PRESERVATION IN WESTERN  
STATES

Ian Howell

Thomas Daniels, Ph.D.

Sarah Willig, Ph.D.

Rangelands cover a vast portion of the U.S., providing myriad environmental services (e.g. clean water, open space, wildlife habitat). The majority of these working landscapes are privately owned and are situated on the wettest and most productive lands in the West, but ranchers often require access to public grazing lands to feed their cattle. Ranchers face narrow profit margins, and many are rich in land, but lack substantial cash income. As the nation's population continues to grow, western rangelands become increasingly threatened by development. Subdivision and residential development of a ranch can negatively affect neighboring ranch businesses, displace native wildlife, and upset the local tax base. Each state addresses agricultural land preservation with a unique mix of tools, funding sources, and local expertise. Furthermore, federal land preservation funding is unevenly distributed across states, and public attitudes towards agriculture and

land conservation vary. Land trust organizations facilitate preservation using conservation easements, which keep working lands working and in private ownership, while restricting most development.

I explore the literature on rangelands, agricultural data, ballot measure trends, and case studies to present circumstances that facilitate and impede private rangeland preservation. In California, well-designed land planning tools support farms and ranches, but the state has relied on unsustainable debt financing to purchase agricultural conservation easements. Colorado has established a successful funding mechanism and an innovative tax credit program for conservation easements, but allows land-consumptive subdivision. Both states benefit from an agricultural land trust founded by their professional cattlemen's associations. The California Rangeland Trust and the Colorado Cattlemen's Agricultural Land Trust have earned the trust of livestock growers and use available state, local, and private funds to protect working ranches.

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## 1.0 INTRODUCTION AND LITERATURE REVIEW

“Today the predominance of ranches and associated large public land holdings are the defining features of the West. Together they support the open spaces, abundant wildlife, small-town atmosphere, and numerous outdoor recreational opportunities that underlie the region’s high quality of life. Ranches were traditionally established on the most agriculturally productive lands, typically associated with valleys and waterways. These areas provide critical winter range, birthing sites, and migration corridors for fish and wildlife....In the arid West, the location of ranches along rivers and streams, results in their playing an important role in maintaining water quality and quantity through preserving functioning watersheds....Ranches also contribute disproportionately to the environmental health of national and state forests, parks, and rangelands. Beyond their role in providing seasonal private habitat, ranchlands provide critical buffer zones between natural and urbanized areas, which both minimizes the impacts of development, and facilitates fire prevention and management.... Despite these values, ranchlands are facing an accelerated rate of loss.” (Partnership of Rangeland Trusts [PORT], 2012c, pp. 1-2)

### 1.1 RANGELANDS AND RANCHING IN THE AMERICAN WEST

Private working lands in the United States are increasingly threatened by development as the nation’s population continues to grow. High conversion rates of private lands from ranching to rural residential development have been documented in traditional agricultural regions of the West. (American Farmland Trust [AFT], 2000; Maestas et al., 2003).

“Exurban development—ie, low-density housing (<64 homes/square mile) within a landscape dominated by native vegetation—is now the fastest-growing form of land

use in the US, covering nearly 25% of the area of the lower 48 states. The most rapid change is occurring in the Southwest and Rocky Mountains [sic] states where it typically involves conversion of ranchland to residential property.” (Resnik et al., 2006, pp. 8-9)<sup>1</sup>

Rates of exurban development may have decelerated with the slowdown in the housing market since 2008. Current gasoline prices approaching \$4 per gallon throughout the country (U.S. Energy Information Administration, 2012) could also affect dispersed housing markets going forward. The trends of the past are clear: the U.S. Department of Agriculture (USDA) estimates a 24 percent decline (243 million acres) in total grazing land in the U.S. from 1947 to 2007 (Nickerson et al., 2011, p. 23). Meanwhile, the Rocky Mountain region, which contains the greatest amount of rangeland, is experiencing dramatic population growth (AFT, 2000). That region’s population growth rates were “two to three times the national rate,” harboring the “five fastest growing states in the country between 1990 and 2000” (Maestas et al., 2003, p. 1426). Growth rates in the Intermountain West slowed from 2000 to 2010, yet continued to outpace the national average (U.S. Census Bureau, 2011b). The Rocky Mountain states are not alone in their remarkable growth: California, the country’s most populous state, grew its population by 7.5 million people from 1990 to 2010 (U.S. Census Bureau, 2011a). Table 1-1 and Figure 1-1 illustrate population growth in the West.

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<sup>1</sup> Brown et al. (2005) and Hansen et al. (2005) note that nearly 25 percent (1.39 million km<sup>2</sup>) of land in the conterminous 48 states is in exurban use. Nickerson et al., (2011) assert that “nonfarm, rural residential areas” cover 103 million acres (417,000 km<sup>2</sup>) (p. 29). The diverging results are concerning: a discrepancy of roughly 240 million acres! The problem appears to exceed variations caused by disparate spatial projections (i.e. map distortions), instead indicating fundamentally different methodologies or definitions.

**Table 1-1: Population Growth in the West**

State	2000 Population	2010 Population	Percentage Change	Housing Units* †
<b>Arizona</b>	5,130,632	6,392,017	24.6%	2,844,526
<b>California</b>	33,871,648	37,253,956	10.0%	12,577,498
<b>Colorado</b>	4,301,261	5,029,196	16.9%	2,212,898
<b>Idaho</b>	1,293,953	1,567,582	21.1%	579,408
<b>Montana</b>	902,195	989,415	9.7%	482,825
<b>Nevada</b>	1,998,257	2,700,551	35.1%	1,173,814
<b>New Mexico</b>	1,819,046	2,059,179	13.2%	901,388
<b>Oregon</b>	3,421,399	3,831,074	12.0%	1,518,938
<b>Utah</b>	2,233,169	2,763,885	23.8%	979,709
<b>Washington</b>	5,894,121	6,724,540	14.1%	2,620,076
<b>Wyoming</b>	493,782	563,626	14.1%	261,868
<b>United States</b>	281,421,906	308,745,538	9.7%	116,716,292

*Data for CA, ID, OR, WA (Seattle Regional Office of U.S. Census Bureau) and for the U.S. are not as up to date as data for states under the Denver Regional Office.*

**Source:** Adapted from: (1) U.S. Census Bureau. (2011, March). *Population distribution and change: 2000 to 2010*, C2010BR-01, Washington, DC: Mackun, P, & Wilson, S. (Eds.).

(2) \*AZ, CO, MT, NV, NM, UT, and WY: U.S. Census Bureau. (2011, March). *What the data show: "Arizona," "Colorado," "Montana," "Nevada," "New Mexico," "Utah," "Wyoming."* (Fact Sheets). Lakewood, CO: Denver Regional Census Center. Retrieved April 17, 2012 from [http://www.census.gov/regions/denver/www/partner\\_information/2010\\_census\\_update.php](http://www.census.gov/regions/denver/www/partner_information/2010_census_update.php)

(3) †U.S. Census Bureau. (2011). *2010 Census population profile maps*. Retrieved January 30, 2012 from [http://www.census.gov/geo/www/maps/2010\\_census\\_profile\\_maps/census\\_profile\\_2010\\_main.html](http://www.census.gov/geo/www/maps/2010_census_profile_maps/census_profile_2010_main.html).

Combined private and public lands dedicated to grazing, including cropland used for pasture, grasslands, and grazed forestland now total 777 million acres or 35 percent of U.S. land (Nickerson et al., 2011, p. 22). Estimates of private grazing lands range from 411 million (Weltz et al., 2011) to 520 million acres (*H.R. 1428*, 2005). Of the nation's grassland pasture and range, which "dominate all other types of grazing land in all regions," 62 percent (380 million acres) are privately owned (Nickerson et al., 2011, pp. 22,

37-38). More than half of these grazing lands lie in the mountain states, with significant blocks in the plains and Pacific regions (Table 1-2) (*ibid.*, p. 22).

**Table 1-2: Public and Private Grazing Lands in the Western U.S.**

Region	Grazing Land*	Total Land Area	Percentage Grazing
<b>Mountain</b>	376,887,000	547,890,000	68.8%
<b>Colorado</b>	40,139,000	66,380,000	60.5%
<b>Montana</b>	55,894,000	93,153,000	60.0%
<b>New Mexico</b>	64,543,000	77,668,000	83.1%
<b>Pacific</b>	86,874,000	203,840,000	42.6%
<b>California</b>	41,143,000	99,814,000	41.2%
<b>United States (48 states)</b>	776,852,000 (775,318,000)	2,263,962,000 (1,893,803,000)	34.3% (40.9%)
*Includes: cropland pasture; grassland pasture & range; forested grazing land			

**Source:** Adapted from Nickerson, C., Ebel, R., Borchers, A., & Carriazo, F. (2011). *Major Uses of Land in the United States, 2007*. EIB-89. U.S. Dept. Agr., Econ. Res. Serv. Dec. <http://www.ers.usda.gov/Data/MajorLandUses/>

Gosnell & Travis (2005) have documented shifting ownership of ranches in the Rocky Mountain west from traditional owner-producers to amenity buyers less interested in livestock production as a primary source of income. This trend and ranch subdivisions are more pronounced in areas of greater population density and appear greatest near resort areas (e.g. Steamboat Springs, Colo.). Conversely, low-density regions (e.g. Carbon County, Mont.) demonstrate higher proportions of intact working ranches, the least development, and a correspondingly low volume of rangeland transfers (*ibid.*).

Even low levels of exurban development in a rangeland community can spell trouble for management regimes necessary to productive ranching. Non-ranching neighbors may obstruct or object to such practices as transhumance herding of livestock and restoring

grasslands with controlled fire treatments (Curtin, 2007). However, the Land Trust Alliance's 2010 Census found that 61 percent of respondents believe working farms and ranches are important conservation priorities, signaling support for rangelands (Land Trust Alliance [LTA], 2011). Grazing maintains open space, buffers adjacent public lands to create larger blocks of wildlife habitat, keeps land in private ownership, and sustains the local tax base (Knight, 2007; Talbert et al., 2007). Studies in California demonstrate beneficial ecosystem outcomes for native plants and animals on grazed grasslands (Barry et al., 2007). Furthermore, working rangelands support domestic food production, without which the U.S.—still a leading agricultural exporter—would become more dependent on food imports (Holechek, 2007).

Ranching has received a poor reputation from many environmentalists. Detractors argue that ranch activities lead to degraded soil, water, and vegetation. Certainly the western range suffered from intense overstocking that degraded grassland conditions during the late nineteenth century (Sayre, 2005). Today's stocking trends are different and other opinions have formed in recent years. Although poor management regimes may yield poor outcomes for soil health, streams, and plant communities, many land conservation advocates support responsible ranching to maintain large contiguous blocks of open land (Jensen, 2001). Efforts by the Malpai Borderlands Group<sup>2</sup> in southern Arizona and New Mexico and the Toiyabe Watershed and Wildlands Management Team in Nevada have demonstrated that thoughtful grazing strategies can improve the quality of land, wa-

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<sup>2</sup> See Sayre (2005) for a detailed discussion.

ter, and wildlife habitat (*ibid.*; Jordan, 2007). Curtin (2002) stresses, “degraded rangelands do not necessarily recover by rest alone,” but require the restoration of natural processes, which may include grazing by large herbivores (p. 840). Large herds of bison and elk no longer provide this essential grazing on most lands, leaving the task to domestic livestock (Ginn, 2005, p. 93).

Grazing in the American West is one of many disturbance processes (e.g. fire, rainfall, trampling) that have historically shaped grassland heterogeneity (Curtin, 2002; Fuhlen-dorf et al., 2009; Griebel et al., 1998). Within Rocky Mountain grasslands, Stohlgren et al. (1999) found little difference between landscapes grazed by various wild and domestic ungulate groups and those excluded from grazing. Grazing appeared to have little consistent effect on native species richness and spread of exotic plants, with few species demonstrating clear responses to this disturbance. The composition and cover of plant species were affected by grazing, but soil conditions and climate were found to affect species diversity more significantly than grazing (*ibid.*, pp. 58-61). In seeming contradiction to the findings of Stohlgren et al., numerous authors and agencies promote grazing for its ability to limit the proliferation of invasive weeds (Brunson & Huntsinger, 2008; CAL FIRE, 2010; Schohr, 2012). Perevolotsky and Seligman (1998) note that California’s Mediterranean climate and modern mix of native and introduced grassland plants demonstrate resilience under heavy grazing by domestic livestock. Periodic grazing disturbance

by livestock can be viewed as relatively benign<sup>3</sup> within western grasslands; however, an honest evaluation of rangeland plant communities must consider an alternative scenario to working lands: low-density exurban housing development.

Roads, homes, and the presence of people and pets all disrupt natural systems (e.g. increasing water runoff and soil erosion, suppressing natural wildfires, displacing native wildlife) and fragment habitat (Jensen, 2001). A comparative study in northern Colorado examining biodiversity trends across nature preserves, ranches, and rural residential developments found that rangeland plant communities contained the lowest proportion of nonnative species (Maestas et al., 2003). In particular, cheatgrass (*Bromus tectorum*),<sup>4</sup> a ubiquitous nonnative that suppresses natural fire cycles and displaces native vegetation, was found in higher densities on preserves and residential properties than on ranches (*ibid.*). Exurban developments hosted fewer “[song]birds and carnivores of conservation concern” than rangelands (Knight, 2007, p. 5). Species adapted to human presence and disturbance appear more prominently on residential and public recreation lands than on working lands closed to the public. It is also worth noting that private ranch lands generally include the most productive and wettest lowlands in the West—high value forage and

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<sup>3</sup> Grazing is considered a beneficial tool for reducing wildfire fuels, just as the historic, heterogeneous habits of bison once interacted with fire across the continent’s grasslands. For discussion of bison grazing, movement, and wallowing see Sanderson et al. (2008) and Knapp et al. (1999).

<sup>4</sup> Cheatgrass produces a spiky awn, whose barbs can cause injury and pain in domestic grazing animals (Lincoln County Noxious Weed Control Board, 2012). Dedicated ranchers work to improve forage by eradicating noxious weeds such as cheatgrass.



habitat—whereas public lands tend towards dry, rocky highlands and arid lands<sup>5</sup> (*ibid.*, pp. 4-5; Sayre, 2005; Talbert et al., 2007). These landscape profiles help explain why ranchers generally pay less for public grazing leases than private leases, a fact that is sometimes cited as evidence of private enterprise being subsidized on public land.

A complex relationship exists between private ranch lands and public lands. Extensive private rangelands buffer public lands, providing an envelope of wildlife habitat, ecosystem services, and natural scenery. Most ranchers hold grazing permits on adjacent and nearby public lands to expand the forage of herds that must be sufficiently large enough to support a productive business (Sulak & Huntsinger, 2007). Thus, mutual benefits are shared by private ranches and grazed public lands. The amount of land in question is substantial: approximately 21,000 ranch families, who use nearly 30,000 grazing permits on Bureau of Land Management (BLM) and U.S. Forest Service (USFS) lands, own about 107 million acres of private land (Gentner & Tanaka, 2002). Regarding spatial proximity, 43 percent of all private lands within one kilometer of public land grazing allotments are private rangelands (Knight, 2007, p. 7).

The downside to this situation is significant, as “private lands bordering public lands are often the most at risk of being developed” by the high amenity values associated with public open space (Talbert et al., 2007, p. 5). The possibility of owning property next to protected areas raises the pressure on adjacent ranches to sell and develop “ranchettes”

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<sup>5</sup> Today’s landownership reflects early federal homesteading policies followed by the Public Lands Commission’s 1905 “Western Range” report and the Taylor Grazing Act, which ended homesteading and regulated unclaimed federal land. See Sayre (2005).

whose land value is increased due to the neighboring amenity. Resnik et al. (2006) describe the situation for ranchers as follows:

“The same development pressure that has created a demand for open space has reduced the area of private rangeland and pastureland available for livestock forage. This makes it more difficult for livestock producers to lease grazing lands to complement their own operations, a common practice in areas where land prices are high and drought can limit forage production on non-irrigated lands.” (p. 4)

The possibility of reduced or eliminated federal grazing permits—a position advocated by opponents of private grazing on public land—creates uncertainty in the ranching community. Barriers to public grazing land hurt ranching businesses and trigger land conversion (Sulak & Huntsinger, 2007). For example, in the San Francisco Bay Area, a region plagued by sprawling development and high land values, leases on public lands account for 40 percent of an average rancher’s land operations and contribute 41 to 44 percent of annual ranch income (*ibid.*). (Table 1-3 provides an example of the scale, costs, and dollars invested in rangelands through the BLM’s permit and lease programs.) According to Nickerson et al. (2011), decreases in western grazing land over the past 50 years have largely been the result of federal rangelands being transitioned to wilderness status or other non-grazing uses (p. 23). Just as the ranching community cannot afford to lose public grazing opportunities on viable rangelands, public lands could suffer ecologically from a halt in grazing. Exclusion of grazing on public lands can render adjacent ranch operations unprofitable, and may encourage development of private working lands that effectively buffer ecosystems of the public domain (CAL FIRE, 2010, p. 79). Acting

on their intimate knowledge of the land, private ranchers also serve as stewards on public lands, managing vegetation and reducing fire hazards with grazing herds (Huntsinger, 2002; Resnik et al., 2006; Sulak & Huntsinger, 2007; Talbert et al., 2007). Ending grazing practices on public land does not guarantee healthy and functional ecosystems, and may be detrimental in some cases.

**Table 1-3: Bureau of Land Management Land Ownership and Grazing**

Region	Surface acres in millions; (% land area)**	Grazing Fees Collected, FY 2007	Grazing Fees Transferred to States, FY 2007	Range Improvement Spending, FY 2007	Grazing Permits & Leases Authorized, FY 2007	Grazing Permits & Leases Authorized, FY 2010	Avg. Grazing Fees (\$ per month per head), 2010 / 2011
<b>Calif.</b>	15.2 (15%)	\$ 228,644	\$ 63,186	\$ 213,634	562	442	\$17.00 / \$18.20
<b>Colo.</b>	8.3 (13%)	\$ 548,323	\$ 88,815	\$ 519,618	1,570	1,283	\$16.50 / \$16.60
<b>Mont.</b>	7.9 (8%)	\$ 2,009,677	\$ 459,702	\$ 2,623,838	4,317	4,170	\$19.30 / \$19.50
<b>N.Mex.</b>	13.3 (17%)	\$ 2,021,253	\$ 358,927	\$ 1,798,022	2,279	2,128	\$12.50 / \$13.00
<b>U.S.</b>	247.9 (11%)	\$ 12,892,709	\$ 2,327,261	\$ 11,077,602	17,874	NA	\$16.10 / \$16.80*
*2010 Avg. Grazing Fees for 11 Western States: AZ, CA, CO, ID, MT, NV, NM, OR, UT, WA, WY							
**Surface land holdings only							

**Source:** Adapted from: (1) U.S. Bureau of Land Management. (2009). *Public Rewards from Public Lands 2007-2008*, BLM/WO-GI-09-008-1100, Washington, DC: Dept. of the Interior: BLM.

(2) U.S. Bureau of Land Management. (2011, June). *Public Land Statistics 2010*, BLM/OC/ST-11/001+1165, Washington, DC: Dept. of the Interior: BLM.

(3) U.S. Dept. of Agriculture. (2012, January 31). *Agricultural prices, 1937-4216*, Washington, DC: National Agricultural Statistics Service.

Subdivision and residential growth on rangelands upset tax revenues for local and county governments. For every tax dollar a community receives from its working lands, it spends an average of only \$0.35 on services. This positive balance reverses in residential areas, where the average community spends \$1.16 on infrastructure and public serv-

ices for each dollar of tax revenue (AFT, 2010a). The “highest and best” use of land (i.e. housing subdivisions) fails to provide tax revenues adequate to support county governance and school systems, contrary to the low population densities and limited demand for services imposed by working ranch land (Knight, 2007, p. 7).

## 1.2 ECONOMICS OF RANCHING

Across the agricultural industry, “U.S. farms sold \$297 billion in agricultural products while incurring \$241 billion in production expenses” in 2007 (USDA, 2010d, p. 1). Figures 1-2, 1-3, and 1-4 highlight gross agriculture sales, the contribution of livestock categories to total sales, and the sales proportions of livestock categories within key states. Cattle and calf farms exceeded 798,000, representing 36 percent of all farms and producing over 20 percent of the value of all agricultural products (USDA, 2009). Although cattle and calf gross sales were more than \$61 billion in 2007 and outperformed all other agricultural segments except grains and oilseeds,<sup>6</sup> expenses for cattle ranchers totaled nearly \$55 billion, or 90 percent of income (*ibid.*). (The sheep and goat sector fared worse than cattle, incurring more debt than income produced: \$957 million in expenses and only \$705 million in sales (USDA, 2010e).) The cattle “crush” margin—net revenue after costs associated with livestock production (Gray & Lawrence, 2010)—has declined precipitously since 2007 (see Figure 1-5). That year the margin averaged \$140 per head, as compared to \$80 per head during the early weeks of 2012 (Speer, 2012). The decline

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<sup>6</sup> Grains and oilseeds also receive the majority of federal payments (USDA, 2010d).

can be attributed to a diminishing supply of feeder cattle (Figure 1-6), coupled with higher feed costs, producing a situation in which cattle growers are exposed to greater financial risk (*ibid.*; USDA, 2012d). Although crop farmers across the corn and grain belt are enjoying boom times (Morris, 2012), ranchers face increasing erosion of profits, as demonstrated by Figure 1-7.

Beef cattle ranchers' costs increased by 30 percent over 2002 figures, reaching an average of \$80,000 per ranch (USDA, 2010a). The largest expense items were livestock, feed, supplies/repairs, labor, and interest payments; the steepest increases were for feed and livestock, rising 45 percent and 31 percent respectively (*ibid.*). What is more, feed costs have continued to rise due to high demand and the influence of corn-based ethanol production. According to the Livestock Marketing Information Center, 25 to 50 percent of a rancher's cash operating expenses now go towards supplemental feed (Gutierrez et al., 2011). Feed typically augments winter nutrition when rangelands provide less forage. The effect of feed costs on ranchers' budgets has prompted studies of grazing techniques intended to extend winter grazing and reduce the amount of feed required to maintain healthy cattle.<sup>7</sup> Intensively managed grazing rotations aside, feed grain supplies are lower than in past years, with oats, sorghum, and barley down 30, 71, and 61 percent of 2004 supplies, driving prices up (CME Group, 2011).

“Strong grain prices have decreased the value-share of the livestock and poultry sector relative to the crop sector, as the livestock share of U.S. agricultural cash receipts

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<sup>7</sup> See Ishmael (2010) for the “300 Days of Grazing Project” conducted by the University of Arkansas.

has declined sharply from 51% during the 2000-2005 period to 43% since 2008.”  
(Schnepf, 2011, p. 1)

Figure 1-8 shows the precipitous decline in livestock-to-corn values. The relationship of corn to other feed crops has played a significant role in escalating feed grain prices while reducing supplies (Figure 1-9).

Record high prices for corn are driving an expansion of cornfield planting, decreasing the amount of land available for lower value grain crops. Ethanol production is a primary driver behind corn's recent success (see Figure 1-10), tying corn values to domestic gasoline prices. High prices at the fuel pump increase the profitability of corn-based ethanol, a mandatory fuel additive. Other U.S. feed grain values tend to follow corn's dominant trend, further increasing feed prices (Schnepf, 2011). Making matters worse, the Wall Street Journal has reported that some corn growers are stockpiling more of their harvests as prices continue upwards, driving up the cost of doing business for livestock ranchers (Pleven, 2012). High feed costs appear to be a recent trend, as operating costs declined from 2008 to 2010 while overhead costs rose (see Figure 1-11) (USDA, 2011d).

On the profit side of the equation, cattle are commanding record high prices, but this does not equate to high or even sustainable profits (Speer, 2012). Figures 1-12 and 1-13 show the current high for all types of cattle across western markets. Ranchers, as “price-takers” rather than “price-setters,” have limited control over the price paid for livestock animals (Field, 2002). “Cattle prices jumped up in 2011 largely because of new dollars flowing into the industry from overseas consumers” (Livestock Marketing Information

Center, 2012, p. 1). While export demand may be pushing the price of cattle upwards, domestic consumers also pay more for beef. The coup de grâce to high cattle prices and the narrow profits ranchers are experiencing could be the price of gasoline. Beyond influencing livestock producers' costs of business (e.g. affecting supplemental feed costs, as noted above), rising gasoline prices affect consumer spending. Higher prices for domestic beef may not be tolerated by American consumers, who respond to spikes in fuel prices by cutting back on perceived luxuries—including the grocery bill (Ishmael, 2012; Speer, 2012).

Besides commodity values involved in cattle production, the scale of a ranch operation contributes to profitability. Large ranches that produce robust gross sales (e.g. >\$250,000 per year) derive a greater share of their income from the ranch operation, but require access to correspondingly large acreages of forage.<sup>8</sup> Table 1-4 illustrates the scale of agricultural operations in key western states and their profitability, yet fails to accurately portray the relationship between land and profitability due to the inclusion of non-livestock producers and exclusion of leased and permitted lands. Field noted in 2002 that most “cow-calf enterprises in the United States are small,” commanding one-third of the total U.S. inventory (p.187). According to more recent USDA (2012c) reporting, 68 percent of all cattle operations manage fewer than 50 head and now account for less than 12 percent of inventories (p. 18). Table 1-5 and Figure 1-14 clarify these statistics.

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<sup>8</sup> Smaller agricultural operations tend to be more reliant on “income generated outside of farming” to supplement business income (Field, 2002, p. 191).

**Table 1-4: Scale of Farm Operations 2011 (includes all agricultural products)**

Region	Number of Farms	Land in Farms (acres)	Avg. Farm Size (acres)	Avg. Value of Products per Farm 2007*
California	81,500	25,400,000	312	\$ 418,164
Colorado	36,700	31,300,000	853	\$ 163,576
Montana	29,300	60,500,000	2,065	\$ 94,942
New Mexico	23,000	43,400,000	1,887	\$ 103,922
United States	2,181,000	916,990,000	420	\$ 138,428

**Source:** Adapted from: (1) U.S. Dept. of Agriculture. (2012, February). *Farms, land in farms, and livestock operations 2011 summary*, 1930-7128, Washington, DC: National Agricultural Statistics Service.

(2) \*U.S. Dept. of Agriculture. (2009). *2007 Census of Agriculture: United States Summary and State Data*, AC-07-A-51, Washington, DC: Author.

**Table 1-5: U.S. Cattle and Calf-Producing Farms by Acreage**

Units	Total	0 to 49 acres	50 to 179 acres	180 to 499 acres	500 to 1,999 acres	2,000 or more acres
Ranches	798,290	189,417	252,852	184,270	122,756	48,995
Cattle	74,071,936	3,372,890	8,026,279	13,459,527	27,203,968	22,009,272
Value (\$1,000)	\$ 61,209,971	\$ 2,294,762	\$ 5,777,466	\$ 10,735,271	\$ 24,170,574	\$ 18,231,898

**Source:** Adapted from U.S. Dept. of Agriculture. (2009). *2007 Census of Agriculture: United States Summary and State Data*, AC-07-A-51, Washington, DC: Author.

Family operated cattle businesses, which make up 89 percent of all cattle growers, hold a majority of inventories (62 percent) yet collect a disproportionately small share of all sales (44 percent) (USDA, 2010a, p. 4). Profit margins for ranching are rarely generous, and many family ranchers assert that the lifestyle is key in their decision to remain in the livestock business (CAL FIRE, 2010; Huntsinger, 2012). When cattle and off-ranch income are not sufficient, ranchers may secure income from their property holdings. Collecting fees recreation access (e.g. hunting) presents one example of leveraging habitat-rich rangelands to diversify ranch income (Schohr, 2012; Wright, 2007). There are nu-



merous opportunities for ranchers to realize additional income or reduced costs while engaging in rangeland conservation.

### 1.3 CONSERVATION OF RANGELANDS

Bucking the traditional model of selling off parcels of land from ranches for maximum development under zoning and planning restrictions, some ranchers have turned to conservation-oriented development. This approach realizes “higher appreciation rates, faster rates of sale, and lower infrastructure costs than conventionally designed subdivisions” (Alexander & Propst, 2002, p. 211). Property owners embracing this type of limited development ensure that grazing can still take place on the majority of their land, while selling a limited number of homesites carefully situated to have the least consequences upon the agricultural use and conservation values of the property. A conservation easement preserves the integrity of the ranch, raising the value and attractiveness of the new homesites for buyers. The number of homes, their building envelopes, and the property use rights of all parties are outlined in the easement (Anella & Wright, 2004). Landowners raise capital from the limited development, but do not have to compromise the future productivity of the ranch by: (1) selling off tracts for maximum subdivision; (2) inviting too many new residential neighbors; or (3) opening the entire ranch to the newcomers.

Brunson and Huntsinger (2008) describe several tools supporting the long-term viability of working rangelands:

“Today conservation easements, cost-share programs, and tax relief are the ways that the public contributes to the production of ecosystem services from ranches. New institutions and policies may emerge that provide for further public investment in working landscapes in exchange for stewardship of ecosystem services by ranchers and rangeland landowners, but we suggest that land-use stability should be an overt goal and perhaps even a condition of such programs.” (p. 144)

Several government programs that offer payments for the environmental services provided by rangelands also offer technical assistance to rangeland owners. For example, the Grassland Reserve Program pays ranchers who enter into rental agreements and both permanent and 30-year term easements to maintain grasslands for grazing purposes and conservation value (see Table 1-6) (USDA, 2010f). Government programs may also support ranching profits through market development and extension services, such as value-added “grassfed beef” sold to local communities (CAL FIRE, 2010, pp. 80-82).

**Table 1-6: Grassland Reserve Program Conservation Easements 2010**

Region	Number	Acres	\$ Allocated
California	0	0	\$ 0
Colorado	3	6,981	\$ 3,709,600
Montana	1	2,637	\$ 367,870
New Mexico	2	2,560	\$ 390,000
United States	140	61,813	\$ 52,318,210

**Source:** Adapted from U.S. Dept. of Agriculture. (2011c). *FY 2010 GRP data - contracts and funding*. Washington, DC: Natural Resources Conservation Service.

Strategies that create relief and income for ranchers do not yield equal conservation results. Many tax programs and cost-share programs, while initially helpful, do not guarantee that rangeland will remain intact beyond a fixed term. For example, California’s

Land Conservation (“Williamson”) Act of 1965 taxes ranchers based on the agricultural value of the land—rather than the “highest and best use”—so long as the property remains in agricultural use for the next ten years (Calif. Dept. of Forestry and Fire Protection [CAL FIRE], 2010). Some federal cost-share programs are similarly shortsighted: both the Conservation Reserve Program (CRP) and Environmental Quality Incentives Program (EQIP)<sup>9</sup> provide payments to agriculture operators in return for specific practices on their land under 10 to 15 year agreements (U.S. Dept. of Agriculture [USDA], 2011a; USDA, 2011b). These term and cost-share programs create financial relief, but largely fail to address lasting land preservation. Conservation easements, however, offer a permanent tool for protecting open rangelands and provide the land-use stability advocated by Brunson and Huntsinger.

Conservation easements are vehicles that allow ranch owners to generate income (or tax relief) from the environmental services produced by open rangelands. Landowners retain their ownership and use of the land, selling or donating only the right to develop their property. These voluntary agreements extinguish the property’s development potential, run with the land in perpetuity, and are a principal tool of land trusts seeking to protect private working landscapes. According to Anella and Wright (2007):

“A conservation easement is a legal interest in private land that perpetually limits development in order to protect significant agricultural, scenic, ecological, and historic resources. Conservation easements are voluntarily donated or sold by a landowner to a qualified conservation organization such as a land trust....When the conservation

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<sup>9</sup> See Ginn (2005, pp. 144-153) for summaries of these and other federal agricultural assistance and conservation programs.

easement is conveyed to the land trust and the easement deed is recorded, these development rights are extinguished....The easement is forever and runs with the land....The conservation easement donor still owns the land and continues to use it for ranching and for the amount of development agreed to in the easement document.” (p. 15)

The West contains 45 percent of the land conserved by local and state land trusts, and 51 percent (3,492,804 acres) of the land they have protected in the eleven Rocky Mountain and Pacific Coast states are preserved under conservation easements (LTA, 2011).<sup>10</sup> The Southwest experienced the largest increase in protected acres from 2005 to 2010—1.15 million acres (*ibid.*). “With the understanding that conservation easements must be voluntary, the tool is supported by the National Cattlemen's Beef Association, the American Farmland Federation, and many stockgrowers groups” (Anella & Wright, 2007, p. 14). Survey respondents across the nation state that easement programs have “helped to keep individual farms and ranches in business and [have] sustained local agricultural economies” (Sokolow, 2006, p. 11). The federal government offers tax benefits for completing a conservation easement deal, but the rules have been inconsistent. Landowners who donate all or part of the value of a permanent conservation easement to a qualified organization or government agency can claim a federal income tax deduction.<sup>11</sup> Further-

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<sup>10</sup> The Land Trust Alliance's Northwest, Pacific, and Southwest regions were used to calculate land conservation figures in the West (See LTA, 2011). The eleven Rocky Mountain and Pacific Coast states referred to are: Ariz., Calif., Colo., Idaho, Mont., N.Mex., Nev., Ore., Utah, Wash., and Wyo.

<sup>11</sup> For 2011 individuals can claim a maximum deduction of 50 percent of their adjusted gross income (AGI). In some special cases agricultural landowners who earn more than half of their income from farming may qualify to claim a deduction of 100 percent of their AGI (Internal Revenue Service, 2012; PORT, 2011). The rules established for tax year 2011 offer tremendous value (see PORT, 2011), but are temporary.

more, in forever restricting the property's development, its value decreases and may produce a consonant reduction in the estate tax liability faced by inheritors.<sup>12</sup> The reduced property value more closely reflects the agricultural value of the land, but is not permanently suppressed (property values continue to change after closing the easement). These tax incentives yield a spectrum of outcomes because each landowner's tax situation is unique.

Two prominent federal programs make funds available for the purchase of permanent conservation easements on rangelands: the Farm and Ranch Lands Protection Program (FRPP) and the Land and Water Conservation Fund (LWCF).<sup>13</sup> The FRPP targets working agriculture by providing matching funds to cooperating states, local governments, and land trusts that support the protection of eligible lands. Funding technically comes from the Commodity Credit Corporation, and since 2008 the FRPP has offered financial assistance for the acquisition of conservation easements.<sup>14</sup> Up to 50 percent of the appraised easement value may be granted through FRPP, but cooperating entities must match at least 25 percent of the negotiated sale price<sup>15</sup> (AFT, 2010b). The LWCF does not specifi-

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<sup>12</sup> See Steven J. Small's many publications for expert discussion of Internal Revenue Code 170(h), donations of conservation interests in property, and estate planning. <http://www.stevesmall.com/>

<sup>13</sup> Although the Grassland Reserve Program can be leveraged to acquire permanent conservation easements, short-term agreements constitute the most active area of the program. Over 46 percent of 677,371 acres that enrolled in the GRP from 2003 to 2007 participated in 10-year agreements. During the same period only 115,348 acres enrolled in either a permanent or 30-year conservation easement, representing 17 percent of participating land (USDA, 2010f).

<sup>14</sup> The 2008 Farm Bill redefined the FRPP, which had previously been a real estate acquisition program (AFT, 2010b, p. 1).

<sup>15</sup> The Partnership of Rangeland Trusts advocates for waiving the 25 percent cash contribution from cooperating entities in situations where the landowner donates 50 percent of the appraised value of the conservation easement (PORT, 2011).

cally address farm and ranch land, but broadly provides funds to federal agencies and states for land acquisition and conservation of privately owned land for recreation purposes. Funding for the LWCF comes from offshore energy drilling permits rather than public tax dollars, yet congressional appropriations have failed to fully fund the program up to its \$900 million a year ceiling. Furthermore, the portion available for state-backed conservation projects may be significantly smaller than the amount distributed to federal agencies.<sup>16</sup> The amount of state-requested LWCF dollars for recreation facilities and parkland acquisition that goes unmet is noteworthy: an \$18.6 billion gap was left unfunded in fiscal year 2011 (U.S. Dept. of the Interior: National Park Service [DOI NPS], 2012b). Figure 1-15 depicts overall funding allocations from the FRPP and LWCF, and Figures 1-16 and 1-17 show the uneven distribution of those funds across key western states.

### **1.3.1 Private Sector Rangeland Preservation and PORT**

Limited public and private funding exists to preserve working lands with conservation easements, as demonstrated by waiting lists of landowners who wish to sell a conservation easement to their local land trust and unmet requests for federal funding. The pace of exurban development and its potentially lucrative outcomes for ranch owners who sell can easily outpace—and outbid—conservation efforts, adding pressure to neighboring ranchers. Successful protection of contiguous and self-sustaining ranching com-

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<sup>16</sup> State allocations for fiscal year 2010 amounted to \$40 million, whereas the total LWCF budget (including the Forest Legacy Program) stood at more than \$453 million (LTA, 2012b).

munities is affected by a complex interplay of: (1) development pressure; (2) the availability of conservation funding; (3) economic health of ranching; (4) public policies; (5) cultural heritage; (6) and individual land trust strategies. These factors differ among western states and affect conservation outcomes for rangelands, as Table 1-7 suggests.

**Table 1-7: Local and State Land Trusts and Acres Protected 2010**  
(Acreages exclude contributions from national organizations)

Region	Number of Land Trusts	Acres Under Easement	Total Acres Conserved (National rank)	Percentage Change 2005-2010 Acres Con- served
<b>California</b>	197	651,270	2,303,442 (Rank 1)	34.0%
<b>Colorado</b>	38	1,141,098	1,225,050 (Rank 3)	52.8%
<b>Montana</b>	15	977,340	1,130,808 (Rank 4)	41.1%
<b>New Mexico</b>	8	281,816	621,051 (Rank 7)	30.2%
<b>United States</b>	1,699	8,833,368	16,075,860	47.4%
<b>Source:</b> Adapted from Land Trust Alliance. (2011). <i>2010 National Land Trust Census Report</i> . Washington DC: Author.				

Partnerships are essential for accomplishing meaningful conservation work. There are more than 1,700 land trusts in the U.S. (LTA, 2012a), and most have too little money, staff, and geographic influence to pursue large-scale preservation. Like the limited economic potential of a discontinuous agricultural landscape, most smaller land conservation organizations lack the capacity to affect land use at a regional level. Even national entities, such as The Nature Conservancy (TNC) and The Trust for Public Land (TPL) frequently collaborate with other land trusts, government agencies, and private enterprises to pool resources to complete larger and more complex projects. The Land Trust Alliance (LTA) advocates for the country's too-numerous land trust organizations, while also at-

tempting to raise the esteem of and consistency among conservation groups. It has developed a uniform set of standards and practices for land trusts to adopt, with the goal of bringing the nation's many organizations into operational alignment. Land trusts that conform to these guidelines may avoid legal and ethical missteps. Protecting land with conservation easements is a specialized field involving real estate, science, law, and communities. A mere 158 land trusts have earned LTA's accreditation, demonstrating their compliance with LTA standards and practices through a rigorous review process (*ibid.*). LTA (2011) noted that of 829 land trusts actively pursuing land or easement acquisitions in 2011, 83 percent had established project selection criteria to guide their actions, and only 70 percent had a strategic plan to define priority areas for conservation (pp. 9, 10).

There are, of course, well-funded, strategic organizations operating at the regional and state level. Statewide agricultural land trusts contribute substantially to the protection of western rangelands. Several of these successful groups are members of PORT—the Partnership of Rangeland Trusts (Table 1-8).<sup>17</sup> PORT members strive to conserve economically viable (i.e. un-fragmented) agricultural landscapes, using voluntary conservation easements that are compatible with working ranches. Each member is affiliated with its state's livestock association, advises agricultural landowners while respecting their decisions about their land, and each pursues projects that retain land in private own-

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<sup>17</sup> In addition to the land trust organizations showcased in Table 1-8, PORT members also include the Ranchland Trust of Kansas and the Texas Agricultural Land Trust (PORT, 2012a). Kansas and Texas are considered Plains states in the context of this paper, and are not examined.



ership (PORT, 2012a). PORT also advocates for agricultural landowner incentives for permanently protecting land, including improving the federal GRP, FRPP, and income tax deduction rules (PORT, 2011; PORT, 2012a).

**Table 1-8: Major State-wide Land Trusts Protecting Western Rangelands**

Land Trust Organization	Year est.	Acres protected	PORT affiliation	LTA status*
<b>California Rangeland Trust</b>	1998	250,000	Member	Accredited
<b>Colorado Cattlemen's Agricultural Land Trust</b>	1995	374,000	Member	Accredited
<b>Montana Land Reliance</b>	1978	866,991 <sup>†</sup>	Member	Accredited
<b>New Mexico Land Conservancy</b>	2002	100,000	Non-member	Member
<b>Oregon Rangeland Trust</b>	2001	11,810*	Member	Member
<b>Wyoming Stock Growers Agricultural Land Trust</b>	2000	170,000	Member	Accredited

**Source:** Adapted from: (1) California Rangeland Trust. (2012). *Winter 2011/2012 newsletter*. Sacramento, CA: Author.

(2) Colorado Cattlemen's Agricultural Land Trust. (2011). *Fall 2011 Crossroads*. Arvada, CO: Author.

(3) \*Land Trust Alliance. (2012a). *Land trusts*. Retrieved February 2, 2012 from <http://www.landtrustalliance.org/land-trusts>.

(4) <sup>†</sup>Montana Land Reliance. (2011). *Montana Land Reliance Fall 2011*. [newsletter] Helena, MT: Author.

(5) Montana Land Reliance. (2012). *Achievements*. Retrieved February 16, 2012 from <http://www.mtlandreliance.org/achieve.htm>.

(6) New Mexico Land Conservancy. (2012). *New Mexico Land Conservancy*. Retrieved February 2, 2012 from <http://173.236.29.70/~nmlandco/nm.php>.

(7) Oregon Rangeland Trust. (2012). *Oregon Rangeland Trust*. Retrieved April 19, 2012 from <http://www.oregonrangelandtrust.com/index.htm>.

(8) Wyoming Stock Growers Agricultural Land Trust. (2012). *About us*. Retrieved April 17, 2012 from <http://www.wsgalt.org/about-us/>.

PORT member organizations “hold and administer over 1,500 conservation easements encompassing more than 1.8 million acres of private, working lands” (PORT, 2012a, p. 1). The next section of this paper examines two members of PORT, the California Rangeland Trust and the Colorado Cattlemen’s Agricultural Land Trust, in the context of their respective states.

## 2.0 STATE ANALYSIS

**Table 2-1: Comparison of State Conservation Efforts**

	California	Colorado	Montana	New Mexico
<b>State Population*</b>	36,756,666	4,939,456	967,440	1,984,356
<b>State Land Area</b>	99,822,700	66,387,200	93,155,800	77,673,600
<b>Total Acres Conserved (baseline)**</b>	50,407,691	18,431,314	21,968,263	12,630,356
<b>Percent of Total State Land Conserved (baseline)**</b>	50.5%	27.8%	23.6%	16.3%
<b>Total Conserved Acres per Capita</b>	1.4	3.7	22.7	6.4
<b>Total Acres Conserved 1998-2005</b>	2,040,718	891,080	412,153	104,990
<b>Acres Developed 1998-2005</b>	710,869	299,457	82,184	268,789
<b>Total Dollars Spent 1998-2005</b>	\$ 2,933,409,629	\$ 495,284,014	\$ 196,332,061	\$ 93,992,499
<b>Dollars Spent per Capita 1998-2005</b>	\$ 80	\$ 100	\$ 203	\$ 47
<b>Dollars Spent per Conserved Acre 1998-2005</b>	\$ 1,437	\$ 556	\$ 476	\$ 895

\*Population figures have not been adjusted to reflect current U.S. Census Bureau data presented elsewhere in this paper

\*\*Baseline figures include land protected by state and regional agencies.

**Source:** Adapted from The Trust for Public Land. (2010). *Conservation Almanac: A resource of the Trust for Public Land*. [Database]. Retrieved February 29, 2012 from <http://www.conservationalmanc.org/secure/>.

### 2.1 CALIFORNIA

California is the nation's most populous state and leads the nation in agricultural product sales, as shown in Figure 1-2. It is among the top cattle, dairy, and sheep and goat producing states, ranking seventh, first, and third respectively (USDA, 2009).

“Ranching families own or manage more than 22 million acres of privately-owned range-

land in California,” and the state boasts another 19 million acres of public working grazing land<sup>18</sup> (California Rangeland Trust [CRT], 2012a, para. 1). The Calif. Dept. of Forestry and Fire Protection (CAL FIRE) (2010) tallies the state’s total primary rangelands at 57 million acres (57 percent of state’s land area) and the area that is grazed at 34.1 million acres, or one-third of the state (see Figure 2-1) (p. 77). Most livestock grazing occurs on private rangelands, yet the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) lease 1.8 million acres and 8.3 million acres, respectively, to ranchers (*ibid.*).

The majority of privately owned rangeland is located in the Sierra Nevada region, followed by the San Francisco Bay Area (CRT, 2009). Due to California’s vast and varied landscape and the wide distribution of rangelands, a variety of vegetation types occur. Grasslands, savannas, deserts, wetlands, and woodlands all support grazing livestock and wildlife (Figure 2-2). These diverse ecosystems are home to the endangered California tiger salamander, the San Joaquin kit fox, giant kangaroo rats, and burrowing owls, as well as unique microhabitats such as vernal pools. Grazing is beneficial to maintaining conditions needed by many of these species in their specialized habitats<sup>19</sup> (*ibid.*; California Rangeland Conservation Coalition [CRCC], 2007; Ellison, 2010, p. 224). Oak woodlands,<sup>20</sup> used principally for grazing since the settlement of California, provide nearly a

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<sup>18</sup> Over half of California’s land area is publicly owned—52 percent (CAL FIRE, 2010).

<sup>19</sup> For example, grazing of serpentine sites has been found to prevent encroachment by invasive weeds that have caused extirpation of the endangered Bay Checkerspot Butterfly in that ecosystem (Barry et al., 2007).

<sup>20</sup> Oak woodlands are sometimes referred to as ‘oak savanna’ or ‘hardwood rangeland’ when the canopy cover is sparse (e.g. along California’s foothills), which is illustrative of this land cover type’s value to grazing. See Huntsinger & Fortmann (1990).

third of the forage grazed by livestock today (Huntsinger & Fortmann, 1990, pp. 147, 148). Although oak woodlands are “dominated by nonnative annual grasses and forbs” they contain “considerable richness of...native annual forbs” (Rissman et al., 2007, p. 24) and support high endemic plant and animal diversity (Rissman, 2010).

California’s massive population has shown a strong conservation ethic. This includes the state’s ranchers, who generally strive to maintain and improve the health of their land. For example, hardwood range landowners responded positively to a restoration outreach program facilitated by the University of California and CAL FIRE. During the 20 years that the program ran, oak woodlands experienced increased tree planting and reduced cutting, a reversal of the previous trend<sup>21</sup> (CAL FIRE, 2010). Without isolating ranchers, the educational tone of the program helped landowners see woodlands for their ongoing range and habitat value, not only short-term timber profits. Another sign of range livestock growers’ conservation ethic is apparent in the associations created by ranchers and for ranchers, namely the California Rangeland Conservation Coalition (CRCC) and the California Rangeland Trust (CRT).

The CRCC was formed in 2005 to work with ranchers, researchers, and governments to protect rangelands encircling the Central Valley. The Coalition leverages greater funding and policy influence as a group of over 100 organizations than could be achieved separately, and its signatories include the California Cattlemen’s Association, The Nature

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<sup>21</sup> Nearly 900,000 acres of oak hardwoods were removed from rangeland between 1945 and 1973 for increased forage and firewood production. Foothill oak woodlands continue to be cleared for rural residential development (Huntsinger & Fortmann, 1990, p. 148).

Conservancy (TNC), the University of California, and the U.S. Fish and Wildlife Service (Schohr, 2012). The CRT is a statewide land trust formed and governed by members of the ranch community to assist other ranchers in conserving their land. Following the precedent of Colorado Cattlemen's Association, the California Cattlemen's Association created the organization in 1998 using seed funds from the National Fish and Wildlife Foundation (NFWF)<sup>22</sup> (*ibid.*; Ellison, 2010). Professional livestock roots provide credibility and trust to ranchers, who are most receptive to information and advice received from other ranchers (Daniels & Bowers, 1997; Huntsinger, 2012). CRT educates ranchers on estate planning and the merits of conservation easements, while candidly acknowledging that permanent easements are not appropriate for every family (M. Delbar, personal communication, April 2, 2012; Huntsinger, 2002). Table 2-2 highlights the CRT's efforts to protect private rangelands throughout California.

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<sup>22</sup> The National Fish and Wildlife Foundation has awarded over \$420,000 in matching grants to CRT to protect working rangelands (*H.R. 1428*, 2005).

**Table 2-2: California Rangeland Trust**

<b>Staff*</b>	10
<b>Acres Protected</b>	250,000 243,000 under easement
<b>Conservation easements</b>	44
— <b>Purchased easements (including partial donations)</b>	36 (majority purchased at full fair market value)
— <b>Donated easements (full value)</b>	8
<b>Wait list volume†</b>	120 families / 500,000 acres

**Source:** Adapted from: (1) M. Delbar, personal communication, April 2, 2012.

(2) \*Calif. Rangeland Trust. (2012). *About the California Rangeland Trust*. Retrieved February 2, 2012 from [http://www.rangelandtrust.org/about\\_us.php](http://www.rangelandtrust.org/about_us.php).

(3)†Schohr, T. (2012). *Grazing for change second edition: Stories of ranchers preserving and enhancing California's grasslands*. California Rangeland Conservation Coalition.

### 2.1.1 State Population & Development Pressure

California's population grew at an explosive rate after World War II, driving up land prices and property taxes (Calif. Dept. of Conservation [CAL DOC], 2010). The non-metropolitan population jumped from a 15% growth rate in the 1960s to 42% in the following decade. By the 1980s small landowners in rural grazing areas had reached numbers sufficient to claim more than one-fourth of California's oak woodlands (Huntsinger & Fortmann, 1990, p. 151). "Since 1990, the state has lost more than 350,000 acres of agricultural land to urban development. Roughly half of this was once highly productive irrigated cropland and half was other cropland and grazing land" (AFT, 2010c, p. 17).

Over 37 million people—mostly living along the coast and in the Central Valley (Figure 2-3)—now make California their home (U.S. Census Bureau, 2011a), and the popula-

tion continues to grow, particularly in the Central Valley (CAL FIRE, 2010). U.S. Census Bureau (2005) projections show the state's population swelling to more than 46 million by the year 2030. New residents will consume 200,000 to 550,000 acres of undeveloped and underdeveloped land, half of which will be on rangelands (Figures 2-4 and 2-5) (CAL FIRE, 2010, p. 46). Rangelands along the edges of the Central Valley are converted to non-agricultural uses at a rate of 47,000 acres per year, and annual grasslands, coastal scrub, montane hardwood, and blue oak woodlands are most threatened by future development<sup>23</sup> (*ibid.*, pp. 7, 46).

Residential development is not the only land conversion pressure in California. The proximity of much of the state's rangelands to lucrative agricultural growing land in the Central Valley presents a different hazard: conversion of grasslands to crop production (e.g. vineyards). From 1984 to 2008 half of the rangeland losses in the CRCC's study area (Figure 2-2) were from conversion to developed uses. Strikingly, an additional 40 percent of range losses were attributed to expanded agricultural crop production (Marty et al., 2012). McQueen and McMahon (2003) assert that 240,000 acres per year were being lost to intensive agriculture during the late 1990s.

### **2.1.2 State Tax Incentives**

According to Huntsinger (2002):

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<sup>23</sup> CAL FIRE's Fire and Resource Assessment Program provides high resolution maps of housing density and projected development at <http://frap.cdf.ca.gov/data/frapgismaps/select.asp>.

“Pressure for development means high land prices, high property taxes, and, eventually, high estate taxes. This problem has been somewhat alleviated by a program, referred to as the Williamson Act, that allows landowners to keep their properties taxed on the basis of agricultural value.” (p. 81)

The California Land Conservation Act of 1965—commonly known as the “Williamson Act”—enables local governments to provide reduced property tax assessments for agricultural and open space land. Local governments receive an annual subvention payment from the state to replace part of the forgone property tax revenues (CAL DOC, 2010; CAL DOC, 2012). The California legislature notes that the state’s modest contribution of a fraction of one percent of the state budget supports lands that return many times that amount to the economy in agricultural product sales (Calif. State Senate, 2010).<sup>24</sup> The subvention payment program’s fragility under California’s budget crisis became clear in fiscal year 2009-2010, when Governor Brown exercised his veto power to effectively halt all payments to local governments. Only a \$1,000 placeholder remained in the state budget, where nearly \$30 million had been allocated in prior years (*ibid.*; CAL DOC, 2010). Local governments, facing deficits compounded by the failure of the state to deliver subvention payments, openly questioned their continued support of the entire Williamson Act program. Reduced payments resumed in the budget year spanning 2010 to 2011, as each participating county was allotted a one-time, pro-rata amount from a \$10 million fund established under Senate Bill 863 (CAL DOC, 2012).

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<sup>24</sup> State subvention payments to local governments have typically been between \$1 and \$5 per acre, depending on soil type and agricultural productivity (CAL DOC, 2012; Calif. State Senate, 2010).



The Williamson Act avoids conflicts with local land use policies by only making those lands that lie within agricultural preserves eligible. Agricultural preserve boundaries are designated by the local government (CAL DOC, 2010). The Williamson Act is further augmented by the Farmland Security Zone (FSZ) program, which allows property owners to enter into 20-year agreements in exchange for greater property tax reductions. More than half of California's 30 million acres of farm and ranch land are currently enrolled in the Williamson Act (CAL DOC, 2012), and an additional 864,000 acres were contracted under the FSZ program as of 2009 (CAL DOC, 2010, p. 2). Landowners are discouraged from terminating Williamson Act contracts early; contracts run with the land for 10 years, automatically renewing each year unless a notice of non-renewal is filed.<sup>25</sup> Early cancellations require petitioning the local board and, if approved, provoke a fee of 12.5 percent (or 25 percent fee for FSZ properties) on the unrestricted fair market value of the property (CAL DOC, 2012).

California ranchers express the belief that government land-use planning threatens ranching, by infringing on private property rights, over-regulating the industry, and depreciating rangeland property values. Estimates suggest that the annual cost of regulation to California agricultural producers is \$2.2 billion, roughly 6 percent of the state's \$36 billion farm gate value in 2008 (AFT, 2010c, pp. 5, 11). Ranchers in urban counties feel more threatened by local land-use planning than their rural counterparts, whose values may be shared by a sparse rural electorate (Huntsinger, 2002, p. 81, 84). Despite these

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<sup>25</sup> The property tax burden gradually rises to the unrestricted rate over the remaining 9 years for Williamson Act contracts, or 19 years for FSZ contracts when landowners apply for non-renewal (CAL DOC, 2012).

concerns, more than two-thirds of ranchers participate in the Williamson Act program (Huntsinger, 2012) and all but five counties across the state have adopted the program (CAL DOC, 2010). The Act saves agricultural landowners money—20 to 75 percent of their property tax liability—in support of active working agriculture (CAL DOC, 2012; Calif. State Senate, 2010).<sup>26</sup> Enrollment in the Williamson Act program may correlate with the size of land parcels held in private ownership. An examination of oak woodlands by Huntsinger and Fortmann (1990) found that the larger the property, the more likely oak woodlands were being managed for economic purposes including ranching, “the most common land use reported by owners of more than 200 acres” (p. 150). Large landowners—exposed to greater tax burdens—were more likely to register their land under the Williamson Act (or in a Timber Production Zone<sup>27</sup>) and to improve wildlife habitat (*ibid.*).

California’s high land and agricultural product values create challenges to family farmers and ranchers, which the American Farmland Trust (AFT) (2010c) summarizes:

“Estate and inheritance taxes are an obstacle to intergenerational succession of California farms and ranches, which tend to have a higher overall capitalization than farms in other parts of the country because of the higher-value crops they produce, the larger size of operations in the West and higher land values.” (p. 23)

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<sup>26</sup> Brunson & Huntsinger (2008) note that ranches sold and subdivided but not yet developed with home sites can be leased to neighboring ranchers for grazing. Thus, the speculative owners can qualify for Williamson Act tax reductions until building out or reselling the property.

<sup>27</sup> Timber Production Zoning (TPZ) originated with California’s Forest Taxation Act of 1976. Lands within a TPZ are: (1) excluded from uses outside of timber production; (2) subject to reduced property taxes; and (3) required to pay a yield tax at the time of harvest. TPZ lands are committed to forest use for an automatically renewed 10-year period (Daniels & Daniels, 2003).

The state addresses these issues by offering a tax credit to donors of conservation easements through the Natural Heritage Preservation Tax Credit Act of 2000. The program, discontinued from 2002 to 2005 but now reauthorized through 2015, encourages donations of land and water rights to qualified agencies and land trusts (Calif. Wildlife Conservation Board [CAL WCB], 2012). Participating landowners receive a state tax credit equal to 55 percent of the fair market value of the contribution that may be carried over for 8 consecutive years if the credit exceeds the tax due (CAL WCB, 2010; Ginn, 2005).

### **2.1.3 State Funding Sources and Public Approval**

Of the states examined in this study, California's conservation ballot measures reflect the most balance between proposed bonds and taxes (Figure 2-6). The overall approval rate for all state and local ballot measures—94 in total—from 1988 to 2011 was nearly 60 percent. As Table 2-3 shows, measures creating property assessments or establishing an assessment district passed most successfully, followed by bonds, then all tax measures (including those on property) (The Trust for Public Land [TPL], 2012). Of more than \$15 billion in landmark state bonds, half specifically support parks and land conservation,<sup>28</sup> as presented in Table 2-4 (TPL, 2010). Public attitudes towards bond financing appear to have hardened amid the economic recession and the state's budget deficit. A water bond was postponed in 2010 after polling found 55 percent opposed; the rewritten bond act is now slated to appear on the November 2012 ballot, yet passage remains un-

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<sup>28</sup> McQueen and McMahon (2003) provide a thorough discussion of California's park and water bonds from the early 1900s to 2002 (pp. 63-69).

certain. California's existing water bond debt payments consume approximately 6 percent of the state budget (Ficker, 2012).

**Table 2-3: California Ballot Measures and Outcomes 1988 - 2011**

<b>Conservation Measures</b>		94
<b>Value of Proposed Measures</b>	\$	97,227,189,189
<b>Value of Approved Measures</b>	\$	75,102,378,779
<b>Conservation Funds Approved</b>	\$	14,060,977,629
<b>Total Approval Rate</b>		58.5%
<b>Total Funds Approved</b>		77.2%
<b>Bond Measures Approved</b>		60.5%
<b>Tax Measures Approved</b>		52.8%
<b>Property Assessment / Assessment District Approved Rate</b>		70.6%

**Source:** Adapted from The Trust for Public Land. (2012). *LandVote*. [Database]. Retrieved February 29, 2012 from <https://www.quickbase.com/db/bbqna2qct?a=dbpage&pageID=10>.

Numerous state agencies draw from bond funds to directly manage land, support the work of non-governmental land trusts, and to reimburse the state's general fund for tax revenues lost under the Natural Heritage Preservation Tax Credit Act (CAL WCB, 2010). Agencies include the Wildlife Conservation Board, Sierra Nevada Conservancy, State Coastal Conservancy, and the California Farmland Conservancy. These entities support conservation at the regional and statewide level, in part by re-granting bond funds to land trusts and by making matching grants to qualified applicants. Local entities seeking to raise general obligation bonds and special taxes face a high threshold—Proposition 13. This 1978 constitutional amendment requires local governments to receive two-thirds approval from its voters (Cook & Zieper, 2005; McQueen & McMahon, 2003; TPL, 2010).

The enabling statute is difficult to satisfy, but standouts include the East Bay Regional Park District's \$500 million bond in 2008 and Orange County's half-cent sales tax, anticipated to generate \$244 million for habitat conservation over a 30-year span (TPL, 2012).

**Table 2-4: California Bond Measures**

Bond Measure	Year Passed	Approval Rate	Total Funds	Conservation Funds
<b>Park Bond Act - Proposition 12</b>	2000	63%	\$ 2,100,000,000	\$ 1,200,000,000
<b>Water Bond Act - Proposition 13</b>	2000	65%	\$ 1,970,000,000	\$ 505,000,000
<b>Resources Bond - Proposition 40</b>	2002	57%	\$ 2,600,000,000	\$ 2,300,000,000
<b>Water Bond - Proposition 50</b>	2002	55%	\$ 3,440,000,000	\$ 1,500,000,000
<b>Safe Drinking Water Bond - Prop. 84</b>	2006	54%	\$ 5,388,000,000	\$ 2,253,000,000
<b>Water Bond of 2012<sup>†</sup></b>	-	-	\$ 11,140,000,000	-

<sup>†</sup>The 2012 Water Bond is scheduled to appear on the November ballot at the time of this writing. The Public Policy Institute of California in a February 2012 poll found only 51% in favor the measure in its current form. Experts believe the measure may be rewritten and postponed.

**Source:** Adapted from (1) The Trust for Public Land. (2012). *LandVote*. [Database]. Retrieved February 29, 2012 from <https://www.quickbase.com/db/bbqna2qct?a=dbpage&pageID=10>.

(2) <sup>†</sup>Ficker, J. (2012, March 19). *2012 California Land Conservation Conference*. Sacramento, CA: California Council of Land Trusts.

Other sources of conservation funding exist in a number of state programs, for example cigarette taxes, environmental license plates, and the Dept. of Transportation's Environmental Enhancement Mitigation Program (McQueen & McMahon, 2003; The Nature Conservancy [TNC], 2004). Private funds augment California's public funding. The wealth of Silicon Valley in particular has been an engine for philanthropic foundations. Notable examples include the Richard and Rhoda Goldman Fund, the William and Flora Hewlett Foundation, the Gordon E. and Betty I. Moore Foundation, and the David and

Lucile Packard Foundation (McQueen & McMahon, 2003). Conservation revolving loans<sup>29</sup> funds, such as Resources Legacy Fund's Central Coast Opportunity Fund and Preserving Wild California program, have also provided financial assistance for land conservation<sup>30</sup> (Clark, 2007).

#### **2.1.4 California Rangeland Trust: The Goodwin Ranch**

The California Rangeland Trust has protected nearly 250,000 acres of working rangelands throughout the state. The organization was quick to build relationships with the ranching community, and within a few years it had a sizable backlog of families interested in placing a conservation easement on their land (Rominger, 2004). CRT has been working to increase its funding to meet what is now a waiting list of 120 families seeking to protect half a million acres of private rangelands<sup>31</sup> (CRT, 2012c; Schohr, 2012). Private and family foundation grants jumped to \$475,000 in the fiscal year ending in 2010 from \$200,000 the year prior. While federal and state funding provided \$5.5 million in project funds, the Rangeland Trust noted that state bond funds were frozen from late 2008 until June 2010, negatively affecting public grant-making. Despite desiccated state cof-

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<sup>29</sup> Conservation revolving loan funds provide borrowed capital to conservation organizations much like a bank loan, but with favorable terms and a shared mission. Once loans are repaid the fund revolves, supporting more projects with the same dollars (Clark, 2007).

<sup>30</sup> The Central Coast Opportunity Fund appears to have been absorbed or replaced by Resources Legacy Fund's California Coastal and Marine Initiative, launched in 2008. The Preserving Wild California Fund closed after its 5-year term ended (Resources Legacy Fund, 2012).

<sup>31</sup> The California Rangeland Trust believes that more ranchers would apply to complete a conservation easement if funds materialized to reduce the waiting list (M. Delbar, personal communication, April 2, 2012).

fers, CRT listed over \$11 million in revenue, and it has continued to purchase conservation easements at their appraised value and accept donations (CRT, 2010).

The California Rangeland Trust recorded a conservation easement for a 3,900-acre tract of the Goodwin Ranch in May 2011 (CRT, 2011). The property is one of two parcels that make up the 7,004-acre ranch. Although located in a remote part of Plumas County, there are small ranchettes less than a mile from the ranch (Sierra Nevada Conservancy [SNC], 2008). Owner George Goodwin was 80 years old when the deal closed, and his daughter's family operates the cattle ranch. By encumbering a section of the ranch with a conservation easement, the next generation of Goodwin family ranchers faces a smaller estate tax burden and can continue to work on the land (CRT, 2011).

The Goodwin ranch is a cow and calf operation with irrigated and dryland hay fields (1,000 acres), alpine meadow, sagebrush steppe, range, and riparian areas (SNC, 2008). The conservation easement covers a mountainous section of summer forage adjacent to the Plumas National Forest, and the entire ranch sits within the Red Clover Valley, part of the Feather River watershed. The mountain waters of the Feather River and its tributaries supply 25 percent of the water entering the State Water Project<sup>32</sup> (CRT, 2011; SNC, 2008). In addition to sustaining the local ranching heritage, the protected Goodwin Ranch safeguards headwaters that millions of Californians rely on. The Goodwin Ranch and neighboring Clover Valley Ranch—a 2,655-acre working ranch being conserved by the Feather River Land Trust (FRLT)—cover 85 percent of the private land in the Red

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<sup>32</sup> The State Water Project delivers water from the Sacramento and San Joaquin watersheds to arid southern California (Service, 2007).

Clover Valley, and much of it will be off-limits to development (SNC, 2010). Adjacent land has already been added to this growing block of contiguous, protected rangelands; CRT closed another conservation easement deal on the second Goodwin Ranch parcel in early 2012<sup>33</sup> (M. Delbar, personal communication, April 2, 2012).

The Goodwin Ranch project aligns with conservation efforts across a broader landscape. The property sits on the edge of California's 120,000-acre Sierra Valley, the largest alpine valley in the nation. It covers an area comparable in size to Lake Tahoe and lies at an elevation of about 5,000 feet (Northern Sierra Partnership [NSP], 2012; Pacific Forest Trust [PFT], 2011). The Valley's 20,000-acre wetland complex—the most extensive in the Sierra Nevada—is situated along the Pacific Flyway, making it an important breeding ground and stopover for migratory birds. To developers, the Sierra Valley's bottomlands look like prime real estate for ranchettes and golf courses serving the populations of nearby Reno, Nevada and Truckee, California (CRT, 2011; NSP, 2012). The entire Sierra Valley is a focus area of both Pacific Forest Trust and the Northern Sierra Partnership (NSP), a coalition of national and local groups working to preserve the character and enhance the local communities of the region (NSP, 2012; PFT, 2011).<sup>34</sup> More than 34,000 acres of the Valley have been conserved, 50,000 acres are enrolled under the Williamson Act, and the BLM and USFS own large holdings (SNC, 2008). FRLT believes

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<sup>33</sup> Details of the second Goodwin Ranch conservation easement have not been released by the California Rangeland Trust at the time of this writing, but should appear by summer 2012. According CRT's grant application to the SNC (2008), the Goodwin's requested that a total of 6,862 acres be covered by conservation easements for a total estimated cost of \$5.5 million.

<sup>34</sup> Northern Sierra Partnership members: (1) The Nature Conservancy; (2) The Trust for Public Land; (3) Feather River Land Trust; (4) Truckee Donner Land Trust; and (5) Sierra Business Council (NSP, 2012).



collaborative efforts are building connectivity among protected working lands and unique ecosystems (P. Hardy, personal communication, March 20, 2012). CRT, with support from its partners in the region, previously completed conservation easements on the Bar One, DS (adjacent to the Goodwin property), and Genasci Ranches, permanently protecting 21,500 acres of the Sierra Valley (CRT, 2012b; SNC, 2008). The Goodwin Ranch is not a work in isolation, but is part of a coordinated effort to prevent fragmentation across an important natural working landscape.

The Rangeland Trust moved forward with the Goodwin Ranch project after conducting an evaluation of 13 ranches within the SNC's district, for which the Conservancy provided a grant to CRT. The Goodwin Ranch placed among the top four ranches for its high environmental, economic, and historic values (SNC, 2008). To meet the conservation easement's appraised fair market value of \$2,520,000, CRT secured public and private grants, noted in Table 2-5 (Calif. Dept. of Finance, 2012). The Sierra Business Council also provided roughly \$18,000 in support for the appraisal report and due diligence reports (SNC, 2008). It appears that the Wildlife Conservation Board's (WCB) grant to the Rangeland Trust only covered one section of the Goodwin Ranch, creating the need to complete two separate conservation easement projects on the property with separate grant packages (*ibid.*; CAL WCB, 2011). Although the process was drawn out over a longer timeline, encumbering both sections of the Goodwin Ranch makes sense. A larger contiguous area is protected from development, supporting the local agricultural

economy, buffering public lands, and safeguarding Sierra Valley's working lands, waterways, and wildlife.

**Table 2-5: Goodwin Ranch Funding Package**

Grantor	Amount	Source
<b>Calif. Dept. of Fish &amp; Game: Wildlife Conservation Board</b>	\$ 1,993,500	Proposition 84
<b>Sierra Nevada Conservancy</b>	\$ 460,000	Other state bond
<b>Northern Sierra Partnership</b>	\$ 66,500	Local
<b>Conservation Easement Appraised Value</b>	\$ 2,520,000	
<b>Total Acreage</b>	3,900	
<b>Price per Acre</b>	\$ 646.15	
<p><b>Source:</b> Adapted from: (1) Calif. Dept. of Finance: Bond Accountability. (2012). <i>Goodwin red clover valley ranches</i>. Sacramento, CA: Strategic Growth Plan. Retrieved April 4, 2012 from <a href="http://www.bondaccountability.ca.gov/">http://www.bondaccountability.ca.gov/</a>.  (2) Sierra Nevada Conservancy. (2008). <i>CRT conservation easement grant request: Goodwin ranch</i>. SNC 080126. Auburn, CA: Author.</p>		

The Goodwin Ranch project illustrates both the merits and the shortcomings of California's model of land preservation. A bottleneck of public funding exists in spite of public support for massive bond financing to protect land and water resources. The entire Goodwin Ranch could have been covered under one conservation easement in a more timely manner had the WCB been able to meet a larger grant request. This would have freed up CRT's staff to focus on other projects sooner. Arguably there are many conservation organizations working in California (Table 1-8) that compete for a limited pool of funds. The best projects are most likely to receive financial support, but the state's most robust funding mechanisms (e.g. bond funds that can be frozen during a budget shortfall) do not appear sufficient to meet some time-sensitive and expensive land transactions.

That being said, the figures from Table 2-1 indicate that California excels in land protec-

tion despite dizzying land costs, but also faces an epidemic of development along with steady population growth.

California receives large apportionments of the Land and Water Conservation Fund and the Farm and Ranch Land Protection Program (as noted in Figures 1-16 and 1-17), but it is unclear how much of that money supports rangeland protection. Private funds can be sought from wealthy foundation initiatives and partnerships of conservation groups (e.g. the Northern Sierra Partnership), through which coordinated activities can positively affect a region (e.g. Sierra Valley). Conservation revolving loan funds could make more capital readily available for rangeland projects, and they would need to be sufficiently large enough to acquire real property interests in large acreages of high value land. Furthermore, borrowers would need assurance that adequate take-out funds (e.g. public and private grants) would become available to repay this debt and keep funds revolving. Coalitions of talented land conservation professionals in private organizations and state conservancies with strong ties to their constituents are one of the state's great assets. The state's two tax incentive programs promote continued ranch operations by allowing landowners to pay only for the agricultural value of their property and by offering reduced tax liability in exchange for donating a conservation easement restriction.

## 2.2 COLORADO

According to the Colorado Cattlemen's Agricultural Land Trust (CCALT) (2010a), agricultural landowners "own and are the stewards of more than 80% of the private land in Colorado" (p. 3). More than 80 percent of the state's farms and ranches are family owned (Colo. Dept. of Agriculture [CODA], 2009). The importance of private agricultural landowners to Colorado's scenic beauty, economy, and future land use is undeniable. The agriculture and food industry generate roughly \$20 billion in revenue each year and support more than 100,000 jobs (*ibid.*). Cattle ranching is the top agricultural sector in Colorado, and the state ranks fifth in the nation in cattle and calf receipts (*ibid.*; USDA, 2009). More than half of the state's agricultural product sales are generated by cattle and calf operations, which account for more than three-quarters of all livestock sales (Figures 1-2, 1-3, and 1-4) (USDA, 2012b). Colorado is also the second-leading producer of sheep and goats by sales (USDA, 2009).

Ranching is not only a significant industry in Colorado, but also presents a pastoral land use among the state's natural beauty that attracts tourism and development, a double-edged sword. Although tourism and recreation provide economic growth, jobs, and cultivate an appreciation for the rural landscape, land development is fueled by the same factors. Ellingson et al. (2006) surveyed summer tourists of Routt County, Colo. regarding their activities, economic contributions, and attitudes towards ranch lands in the Steamboat Springs resort area. Tourists participate in outdoor recreation activities, such as hiking, wildlife watching, and fishing, all of which are dependent on healthy and abundant

open lands. Survey respondents stated they would reduce their spending and trip length in the Steamboat Springs area if existing ranch lands were converted to urban uses (p. 2). Tourist revenues were projected to decrease by \$36 million per year should Routt County's private ranches be paved over, a scenario that would shed over 1,600 local jobs in agriculture and tourism. An additional \$28 million would be lost from ranch land agricultural operations (e.g. range and ranch fed cattle, hay crops, and pasture) (p. 3).

Despite clear economic motivations to protect ranch lands, Routt County and similar communities throughout Colorado face high development pressure (Figure 2-7) and lax land regulations—the state allows 35-acre subdivisions by right (Daniels & Bowers, 1997). For example, a landowner can legally create 10 lots, each one 35 acres in size, from a 350-acre property. This standard has helped to fragment ranch lands into parcels too small to graze livestock economically (*ibid.*). Fortunately Colorado's agricultural landowners have demonstrated a high conservation ethic (Cross et al., 2011), and three out of four Colorado residents believe agriculture is important to their quality of life (Brunson & Huntsinger, 2008). Nearly 80 percent of residents believe that ranchers holding "permits to graze on public lands treat the land appropriately" (*ibid.*, p. 142), and those familiar with western Colorado's multiple-use public lands show the greatest support (Resnik et al., 2006, p. 7). Ranchers themselves have been leaders in private land conservation, evidence of CCALT's support across the state.

"In 1995, the Colorado Cattlemen's Agricultural Land Trust (CCALT) was created by the Colorado Cattlemen's Association. CCALT was the first agricultural land trust in the country formed by mainstream producers. They created CCALT to provide a lo-

cal, agriculturally-focused conservation partner for Colorado ranchers who were faced with growing development and economic pressures, and to encourage continued agricultural production for the benefit of everyone. CCALT's primary emphasis is to increase awareness among agricultural landowners about the use of conservation easements as a means of protecting land and facilitating the intergenerational transfer of productive lands. Of over 30 land trusts in Colorado, only CCALT specifically serves the needs of the broader agricultural community." (Veslany, 2002, p. 15)

Today CCALT holds more than 20 percent of all land under conservation easements in Colorado (CCALT, 2009a). It has completed the most conservation transactions and holds more easements than any other organization operating in the state (M. Manner, personal communication, April 5, 2012). Table 2-6 captures CCALT's accomplishments and recent land conservation achievements.

Table 2-6: Colorado Cattlemen's Agricultural Land Trust			
Staff†			8
Acres Protected			389,000
Conservation easements			263
Wait list volume	20-30 (easements for purchase); no waiting list for donations		
CCALT 2011 Snapshot			
2011 All Conservation Easements	26	\$	27,484,900
2011 Purchased Easements*	14	\$	10,127,250
2011 State Tax Credits Generated by Donated Value of Easements	26**	\$	7,506,375
2011 Acres Protected	18,444		
*Dollar value represents payments delivered to landowners with CCALT and partner funds			
*In addition to 12 donations of the full conservation easement value, the 14 purchased easements in 2011 had a donated component.			
<b>Source:</b> Adapted from: (1) Manner, personal communication, April 5, 2012.			
(2) †Colorado Cattlemen's Agricultural Land Trust. (2012). <i>Colorado Cattlemen's Agricultural Land Trust</i> . Retrieved February 2, 2012 from <a href="http://www.ccalt.org/index.html">http://www.ccalt.org/index.html</a> .			

### 2.2.1 State Population & Development Pressure

In Colorado 141,000 acres of ranch and farmland were lost each year to development from 1987 to 1997, a rate that accelerated during the later five years to 270,000 acres per year (Knight, 2002). Five million people live in the state, more than double the number 40 years ago (U.S. Census Bureau, 2011a). Today's population exceeds 10-year projections made in 2000, suggesting that continued growth could swell the state to 6 million residents by 2030 (U.S. Census Bureau, 2005). Much of the population is concentrated in the sprawling metropolitan centers of the Front Range (Figure 2-8), but this accounts only for primary residences.

Colorado's rural landscape has attracted newcomers from within and beyond the state, and the demand for recreation experiences has driven the development of second homes and vacation housing. The state's land use planning has catalyzed the problem by allowing unchecked subdivision of property into parcels of 35 acres or larger. Since 1972 county and local governments have been unable to review development plans for 35-acre subdivisions, allowing rapid conversion of open space to land-consumptive "ranchettes" of little to no agricultural value. With no authority to put the brakes on this mode of development, rural communities have witnessed a concurrent rise in land prices. Offers based on the developable value of ranch properties have made it difficult to keep agricultural lands in production.<sup>35</sup> The financial returns for carving off a portion of the family ranch or selling it in its entirety are persuasive (AFT, 2000; AFT, 2003).

The American Farmland Trust (2000) states:

"Affluent newcomers and recreational land developers are bidding up land values...to a point where they far exceed the agricultural production value of rangeland. Working ranches are being sold at prices from 30 to 100 times their production value." (p. 6)

In areas remote from large urban centers (e.g. Routt County) "the escalation of resale prices for...ranches in recent years has been primarily due to the demand for recreational estates associated with resort and ski developments" (e.g. Steamboat Springs) (Sokolow, 2006, p. 33). Even when undivided ranches are protected by agricultural conservation easements, affluent non-ranchers may outbid livestock growers when properties are re-

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<sup>35</sup> The desirability of ranch land for nonagricultural uses is also keenly felt in New Mexico, where only 14 percent of sales prices are attributed to the land's agricultural value. The other 86 percent of prices stems from amenity values (e.g. open space, rural lifestyle, wildlife, etc.) (Sayre, 2005, pp. 24-25).



sold (*ibid.*). Only 14 percent of Colorado's farms and ranches surveyed in the 2007 USDA (2009) Census of Agricultural had annual sales of greater than \$100,000 (CODA, 2009). Some low production farms may be nothing more than estates on formerly productive land, and many legitimate growers with modest sales likely find themselves lacking enough ranch income to expand their operations.

### **2.2.2 State Tax Incentives**

Whereas land use restrictions in Colorado are counterproductive to maintaining working rangelands, tax policy and incentives have been more effective. "Agricultural land is taxed for its agricultural use, rather than its potential for development" (AFT, 2000, p. 10). The actual value of agricultural lands is based on the productive capacity of the land over time, and the tax rate derives from this value (Colo. Dept. of Local Affairs [CODLA], 2006, p. 2). A formula that assesses the price of commodities produced on agricultural land or the property's grazing rental rate along with the soil classification is applied to determine the intended use value of the land (CODLA, 2012). Taxing land at its agricultural value helps to retain rangelands in commercial ranching; however, it has a downside. Land speculators have taken advantage of the use tax while land remains undeveloped, and property owners face no penalty or payback of reduced taxes when the land becomes developed (AFT, 2000). In other words, speculators can take full advantage of the rules without penalty, and agricultural landowners do not face an economic disincentive for transitioning productive land to rural residential lots. In a final pervers-

sion of the intended benefit to working ranchers, a loose definition of agricultural land in the state's statutes has allowed some residential "ranchettes" to qualify for the property tax break (*ibid.*).

Colorado's tax incentive for partial and full donations of the appraised value of a conservation easement is exceptional. The state's approach goes beyond simply offering a tax deduction for the amount donated. Starting in 2000, legislation allowed landowners to receive a cash payment from the state for the unused portion of their conservation tax credit (i.e. when a rancher's taxable income is fully covered by the tax credit, any remaining value of the credit can be cashed out) (TNC, 2004).<sup>36</sup> A second mechanism that benefits donors of conservation easements lies in the ability to trade and sell unused tax credits. This option has proven popular among ranchers, who, due to the modest size of their taxable income, cannot otherwise take full advantage of the credit benefits. Instead of using only part of the credit to shelter their income, agricultural landowners have used tax credit brokers to sell the excess credit to individuals and corporations with significant income to shelter from their state tax liability (*ibid.*; TPL, 2010). The transferability of conservation easement tax credits provides an incentive for donating a conservation easement by creating a marketplace for credits. In a successful melding of private capital and public policy for land conservation, parties interested in buying a tax credit support working rangeland owners' decision to preserve their land for ranching. CCALT believes

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<sup>36</sup> Cash refunds of up to \$50,000 from the state are available only in years where the state has a budget surplus (TNC, 2004, p. 6). Refunds were unavailable from 2002 to 2010 due to an actual or planned state budget that failed to reach requisite surplus levels (Colo. Dept. of Revenue, 2010b).

that fewer conservation easements would be recorded without the Gross Conservation Easement Credit program (M. Manner, personal communication, April 5, 2012).

The individual tax benefit increased in 2007, allowing conservation easement donors to claim a maximum credit of \$375,000 (50 percent of the first \$750,000 of the fair market value of the donation). The 2007 rules offer an increase of \$115,000 over the previous maximum benefit,<sup>37</sup> and excess credits may still be carried forward for a maximum of 20 years (Colo. Dept. of Revenue [CODOR], 2010b). The popularity of the easement credit program among Colorado's landowners is evident from the depletion of state funds allocated for credits. According to Colorado's Division of Real Estate, the entire \$22 million fund for conservation easement tax credits was spent for 2011. As of March, 79 percent of this year's pool of \$22 million has already been issued. The state has budgeted \$34 million for 2013, a likely boon to landowners, conservation organizations, and beneficiaries of the tax credit trading scheme (Colo. Dept. of Regulatory Agencies, 2012). Donating a portion of the conservation easement's value helps leverage funding and offsets "the tax burden created by selling an interest in the property. In CCALT's entire history, [it has] had only one 100% purchase" (M. Manner, personal communication, April 5, 2012). The transferrable conservation easement credit enhances the outcomes of donations considerably.

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<sup>37</sup> For easements donated from January 1, 2000 to December 31, 2002, the maximum credit was \$100,000 (100% of the first \$100,000 of donated value). For easements donated from January 2003 through December 2006, the maximum credit available was \$260,000 (100% of the first \$100,000, plus 40% of the next \$400,000 of the donation) (CODOR, 2010b, p. 1).

There is concern that the Gross Conservation Easement Credit program has been abused in two ways. First, new Colorado “taxpayers” are allegedly being created through partnerships and LLCs, allowing out-of-state residents to sell conservation credits. Members of the new entities may not have any tax liability in Colorado, thus depriving the state of anticipated returns when a buyer uses the credits. The second concern is the fragmentation of properties. Parcels may be transitioned from single-ownership to multiple ownerships, allowing more individuals to leverage the salable credits. Alternatively a single owner may wish to donate numerous smaller conservation easements that will create greater long-term tax benefits. This requires splitting the property into multiple parcels that could become separately owned, leaving no viable agricultural tract. Phasing in multiple conservation easements rather than executing all-encompassing one leads to increased administration by easement holders and fails to guarantee that as much of the original land will become protected. The conservation value of several smaller properties pales in consideration of the same land as a whole. Abuse of Colorado’s system may cause land trusts and conservation donors to come under increased federal scrutiny (Jay, 2003).

### **2.2.3 State Funding Sources and Public Approval**

Coloradans cast their votes for a remarkable volume of conservation measures from 1989 to 2011, surpassing California by a large margin. Municipal, county, and special district measures were prolific, accounting for 98 percent of 163 ballot hopefuls. Nearly

three-quarters of all ballot measures passed, approving slightly less than 40 percent of funds at stake (Table 2-7). Figure 2-9 illustrates the ratio of tax to bond proposals; Coloradans have shown strong support for both types of funding.

“Local governments in Colorado have a range of conservation funding mechanisms—the sales tax, property tax, and general obligation bonds—and are eligible to receive grants from the state’s Great Outdoors Colorado (GOCO) program for up to 75 percent of the cost of a land conservation project.” (Cook & Zieper, 2005, p. 64)

Table 2-7: Colorado Ballot Measures and Outcomes 1989 - 2011		
Conservation Measures		161
Value of Proposed Measures	\$	11,965,595,623
Value of Approved Measures	\$	4,617,168,402
Conservation Funds Approved	\$	3,967,061,310
Total Approval Rate		74.4%
Total Funds Approved		38.6%
Bond Measures Approved		79.6%
Tax Measures Approved		70.2%
<b>Source:</b> Adapted from The Trust for Public Land. (2012). <i>LandVote</i> . [Database]. Retrieved February 29, 2012 from <a href="https://www.quickbase.com/db/bbqna2qct?a=dbpage&amp;pageID=10">https://www.quickbase.com/db/bbqna2qct?a=dbpage&amp;pageID=10</a> .		

Colorado counties in 2008 received additional authority to propose uncapped sales and use taxes specifically to fund open space programs through the Open Space Sales Tax Exemption (TPL, 2010). County-level purchase of development rights (PDR) programs, such as that of Boulder County,<sup>38</sup> have made great strides in conserving open space (Cook & Zieper, 2005; Veslany, 2002). Local programs and non-government organiza-

<sup>38</sup> The Boulder County PDR program has used bond financing combined with sales and use taxes since its inception in 1984 (Veslany, 2002). Cook and Zieper (2005) note that the success of Boulder’s program spurred other local governments in the Denver metropolitan region to establish PDR programs as well.

tions often leverage state funding from the Great Outdoors Colorado (GOCO) program to complete land conservation projects. GOCO has been widely applauded for protecting the state's land, water, and wildlife with dedicated funding from the state lottery. Grants are made to local agencies and land trusts, with matching contributions of 25 to 50 percent required (TPL, 2010). This reliable source of state funding was established in 1992 with voter approval of the trust fund<sup>39</sup> (TNC, 2004; Veslany, 2002). Its first grants were issued in 1994, and through 2010 GOCO has committed \$757 million for 3,400 projects and in all 64 of Colorado's counties (Great Outdoors Colorado [GOCO], 2012b). Over 800,000 acres of land have been permanently protected with GOCO funding (*ibid.*). GOCO receives 50 percent of state lottery proceeds up to \$35 million annually (Cook & Zieper, 2005; McQueen & McMahon, 2003; TNC, 2004). The trust fund reached its \$35 million cap each year from 2002 to 2010. When this occurs the overflow supports capital improvements in underfunded school districts. In fiscal year 2010, GOCO funds exceeded the cap by more than \$21 million as the lottery drew \$112.9 million in net proceeds (GOCO, 2012b).

The state's Native Species Conservation Trust Fund, which supports conservation and research projects for eligible at-risk species, is less well known than GOCO. It is financed through the state's Severance Tax Trust Fund. Only a few million dollars are awarded from this state fund each year (Colo. Dept. of Natural Resources, 2012; McQueen & McMahon, 2003; TNC, 2004).

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<sup>39</sup> GOCO bonding authority was approved in 2001 by the state's voters. GOCO authorizations account for two out of three state-level ballot measures to appear in Colorado from 1989 to 2011 (TPL, 2012).

Revolving loan funds assist with conservation easement transactions in Colorado. The Colorado Conservation Trust (CCT) manages two loan funds. The Capital Loan Fund provides bridge funding to land trusts and local government agencies for projects facing critical windows of opportunity. This timely lending source can help organizations begin a transaction, leverage additional project funding, and secure a property before it is lost to a non-conservation buyer. CCT's second fund assists landowners with the upfront costs of recording a conservation easement by offering a no-interest loan. The expense of legal fees, appraisals, and baseline inventories can be a barrier to some ranchers; therefore, this loan fills a gap in cash flow. Landowners repay the debt with income earned from selling their unused transferable state tax credits (Clark, 2007; Colorado Conservation Trust [CCT], 2012). CCT's landowner-targeted Transaction Cost Revolving Loan Fund integrates particularly well with the state's transferrable tax credit for donated conservation easements. It addresses the financial needs of many land rich but cash poor ranchers who would like to preserve their land and take advantage of the state tax credit program. This fund does not need to be particularly large to put landowners within reach of Colorado's standout tax incentive.<sup>40</sup>

#### **2.2.4 Routt County and the Colorado Cattlemen's Agricultural Land Trust**

In the late 1990s, Routt County instituted a purchase of development rights (PDR) program to conserve its ranching land base. The effort was spearheaded by a coalition of

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<sup>40</sup> CCT's 2008 lending demonstrated that \$225,000 in Transaction Cost Revolving Loans leveraged \$9.8 million in donated conservation easement value (CCT, 2012).

ranchers, conservationists, and business leaders concerned by agricultural land conversion in the Yampa River Valley (Alexander & Propst, 2002, p. 209). Local voters narrowly passed a one-mill (0.001) property tax in 1996, estimated to draw over \$3.5 million during its 10-year approval period (TPL, 2012). Tax revenues combined with a \$3.2 million grant from the GOCO lottery program and a \$250,000 startup grant from city of Steamboat Springs and Routt County to preserve water quality, wildlife habitat, ranch land, and natural areas (Alexander & Propst, 2002). A solid majority of voters approved extending the tax for 20 years (from 2006) and increasing it to 1.5 mill, an action anticipated to capture over \$20 million for land conservation (TPL, 2012). Including then-projected 2011 transactions, the PDR program reported preserving 27,000 acres with \$14.3 million of county funds (Routt County Purchase of Development Rights... [Routt County PDR], 2011). Routt County PDR awards are typically leveraged by conservation groups to secure take-out funding (*ibid.*; Ross, 2009). On average three additional dollars are secured from federal, state, and local agencies for every dollar of county funds channeled to conservation projects. Furthermore, landowners donate nearly half of the appraised conservation value of their land in these transactions, making them eligible for state and federal tax incentives, while reducing the financial burden on public agencies. This recipe of initial PDR funds supported by agency grants and landowner donations has extinguished more than \$44 million of development rights in the county (Routt County PDR, 2011).



CCALT has worked with a number of ranchers in Routt County and has developed a deep partnership with the county PDR grant-making program. Since 2000 the land trust has protected 17 Routt County ranches, encompassing 11,000 acres of working rangelands (CCALT, 2010a; CCALT, 2010b). Terry and Maureen Reidy's Focus Ranch sits in the northwest part of the county, 50 miles from Steamboat Springs. The Colorado-Wyoming state line bisects their 1,232-acre cattle and guest ranch of irrigated meadows, riparian corridors, and sagebrush rangelands. Two miles of the Little Snake River flow through the property, attracting black bear, elk, mule deer, bald eagles, sage grouse, and Colorado River cutthroat trout. In addition to its wildlife and agricultural operations, the Focus Ranch enhances the scenic view-shed from the nearby county road (CCALT, 2009a; CCALT, 2010b).

CCALT assembled both state and county level funding for the Focus Ranch project and closed the easement deal by the end of 2009. In October GOCO approved funding in the amount of \$450,000 for an open space grant for the 590-acre conservation easement (CODOR, 2010a; GOCO, 2009; GOCO, 2012a). The Routt County PDR program contributed over \$400,000 for acquisition and transaction costs (Figure 2-10).<sup>41</sup> The Reidy's donated another half-million dollars of the appraised value, reducing the total project costs to less than \$1 million, or roughly \$1,440 per acre (Routt County PDR, 2011). In return, the Reidy's can claim nearly \$250,000 in tax credits (i.e. 50 percent of their donation) under the state's Gross Conservation Easement Credit program.

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<sup>41</sup> Routt County PDR (2011) figures list GOCO's grant for Focus Ranch as \$425,000, less than the amount reported by GOCO (2009; 2012a) and the Colo. Dept. of Revenue (2010a).

Focus Ranch is adjacent to the A. W. Salisbury Ranch, another CCALT conservation easement project completed with support from Routt County PDR, GOCO, and TNC (CCALT, 2010b). Since 2008, CCALT has protected over 4,000 acres in the Upper Little Snake River Valley (CCALT, 2009b), underscoring the importance of ranching there. The Focus Ranch project did not end with the conservation easement on the Colorado portion of the ranch; an easement also covers the 642 acres in Wyoming. CCALT partnered with the Wyoming Stock Growers Agricultural Land Trust (WSGALT)<sup>42</sup> and TNC to secure the conservation easement—ultimately held by CCALT—on the Wyoming side of Focus Ranch. According to the Wyoming Wildlife and Natural Resource Trust (WWNRT) (2012), the second easement project cost \$1,094,200, towards which WWNRT contributed \$100,000. While the Reidy's donated 55 percent of the combined value of the two conservation easements (CCALT, 2009a),<sup>43</sup> their donation in Colorado has greater flexibility under the transferrable tax credit program. Wyoming does not offer a state tax benefit to donors of conservation easements (Cross et al., 2011).

The Focus Ranch project successfully crossed state boundaries to preserve a productive working ranch with high conservation values. The endeavor marks the first cooperative project conducted by CCALT and WSGALT in a region known for its agricultural heritage (CCALT, 2010b). Conservation successes have continued in the Upper Little

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<sup>42</sup> Since its founding in 2000, the WSGALT has protected over 170,000. It is Wyoming's principal state-wide agricultural land trust and is affiliated with the Wyoming Stock Growers Association (Wyoming Stock Growers Agricultural Land Trust [WSGALT], 2012a).

<sup>43</sup> It appears that the Reidy's donated approximately \$847,000 of the appraised value of the Wyoming conservation easement (i.e. 55% of the combined value of the two easements, less the \$509,000 donated in the Colorado deal).

Snake River Valley, where CCALT completed another three working ranch conservation easements in 2010 with support from Routt County's PDR program (CCALT, 2010a).

There is little documentation of a high degree of subdivision and development in the valley, but the active role taken by the county and the area's ranchers suggests that rangeland preservation aligns with public policy and community goals. Moreover, the Gates Family Foundation and Gates Frontier Fund (GFF) have established new conservation funds targeting Wyoming's North Platte Valley and Colorado's North Park region. Funds will be available to land trusts working to protect ranches, such as CCALT and WSGALT, making it easier to raise the matching funds needed to leverage larger sources (e.g. GOCO). Additionally, the GFF's commitments establish a revolving loan fund designed to "help landowners cover the costs of appraisals, attorneys and other due diligence required in completion of a conservation easement" (WSGALT, 2012b). Agricultural land conservation has gained wide support in this section of Routt County, and it appears possible that enough ranches will remain intact to sustain cattle grazing and livestock support industries.

### 3.0 CONCLUSIONS

Governments and agricultural land trusts must employ multiple strategies to protect America's working rangelands. Ranches must be supported as businesses uniquely positioned to steward much of the nation's private *and* public grazing lands. Federal and state tax incentives can fairly support these landowners and reduce the cost of doing business in exchange for public and environmental services: clean water, rural jobs, and buffers to public lands. Tax incentives alone are not enough. Agricultural lands must be stabilized with good planning tools. States and local governments must apply appropriate zoning and subdivision ordinances that help growers keep their land in production and maintain favorable cost-of-community-service ratios (i.e. property taxes levied to municipal service expenditures). Taxes and planning tools address the short- and long-term viability of working lands, but lack permanence. Funding for PDR programs and for grants that support acquisitions of conservation easements by land trusts is essential. The retiring of development rights on privately owned land is impervious to changes in policy. Public funding mechanisms for permanent conservation allow land trusts to work more prolifically, while returning capital to landowners for their investment in open lands. States and the federal government can improve their tax incentives to attract more conservation donors (e.g. making permanent the temporary federal income tax incentive available to taxpayers in 2011), potentially reducing the public cost of land protection. The adoption of an incomplete set of agricultural protection techniques results in a mix of success and failure, as revealed by a comparison of California and Colorado efforts.

Both California and Colorado offer reduced property taxes to agricultural growers, but the programs differ in approach and effectiveness. The Williamson Act is designed to support only legitimate farm and ranch businesses that lie within appropriate agricultural zones. It also delays changes to enrollment under the Act by automatically renewing rolling contracts and by imposing penalties for early termination. The Williamson Act's greatest downfall appears to be turmoil in the state budget that has jeopardized subvention payments. In contrast, Colorado's property taxation fails to accurately target its intended beneficiaries because of poor definitions and inadequate agricultural land planning. The state needs to tether reduced property taxes to more stringent agricultural use rules (i.e. eliminate abuse of the system by supporting only those ranch operations that produce significant gross income). Like California's William Act program, Colorado could also require term agreements to keep land in agricultural use in exchange for use-value tax benefits. Colorado's subdivision allowances by law have accelerated land speculation of large ranch properties. Zoning appropriate to the scale of livestock grazing should accompany agricultural production districts where reduced taxes are offered to decrease "ranchette" development. The average Colorado farm is 850 acres (Table 1-4), and the average ranch in CCALT's project portfolio exceeds 1,400 acres (Table 2-6). Agricultural zoning of one ranch dwelling unit per 640 acres would better harmonize agricultural land planning and tax benefits to discourage the dismantling of economically viable ranch properties. GOCO funding could leverage support for such land planning by

limiting grants for working land projects to those within a locally approved agricultural production district.

Colorado's GOCO program is a clear success, supported by voters and yielding concrete outcomes. Behind this high profile state funding, local measures drive permanent land conservation and often provide the initial capital to leverage GOCO grants. Colorado counties and local authorities have been more successful in passing voter-approved sales and property taxes than Californians. The reason: California's enabling legislation requires that local governments receive two-thirds approval from voters. Colorado's recent adoption of the Open Space Sales Tax Exemption further eases local governments' pursuit of tax measures. Boulder and Routt Counties, for example, have used both taxes and general obligation bonds to address land conservation goals. The sheer volume of local conservation financing measures to appear on ballots, three-quarters of which have passed (Table 2-7), confirm the value of Colorado's enabling legislation (TPL, 2012).

High land values and productive rangelands require a significant amount of funding to accelerate California's rangeland preservation in the face of continuing development and population growth. A lottery mechanism, such as Colorado's GOCO program might not be adequate to fill the funding gap in rangeland conservation, much less the needs of nonagricultural land protection. However, any source of reliable funding, sheltered from legislative raids and free of debt would provide critical project financing. The state's tremendous bond financing has provided ready cash for projects, but has lacked consistency and has deeply indebted the state. Moreover, land and water bonds passed with

steadily decreasing voter support from 2000 to 2006 (Table 2-4), and the most recent measures haven't garnered enough support to appear on ballots.

Colorado's Gross Conservation Easement Credit program provides a popular incentive for conservation donations of real property value. For land rich, cash poor ranchers, non-transferrable tax benefits can reach a point of diminishing returns, as there is too little income to shelter. Colorado's program allows landowners to seek additional compensation for their tax credits, but the system has reportedly been abused. California offers a generous state tax credit for a donation of conservation easement value, but unlike Colorado, doesn't provide a tradable credit system that would allow many ranchers to derive greater cash value from their land. (Compared to ranchers, California's higher income crop growers may stand to gain more from the current system.) Such a transferrable tax credit system could reduce the cost of protecting land in California. Landowners might consider donating a larger share of the total value of a conservation easement, rather than seeking maximum return on the initial sale. The consequent tax credits could leverage private capital to further compensate ranchers for their donations, a powerful alternative to public funding, but one that can succeed only when the state's budget is healthy. If California lawmakers someday pursue a transferrable credit system, they can avoid mistakes by studying the vague language of Colorado's otherwise successful system.

Land trusts spearhead much of the effort to permanently protect rangelands by using conservation easements. At the national level, only a few government programs offer sometimes-fleeting funding for permanent land conservation. State conservancies and

local programs (e.g. county PDR programs) provide financial and policy support to land trusts. Whether funded by bonds, taxes, or unique mechanisms (e.g. GOCO lottery proceeds), local agencies are integral to the success of land trusts. Land trusts should seek strategic partnerships to leverage public and private funds and improve the quality of their work. Agricultural land trusts bring expertise to the table, along with a nongovernment face. Trust and common ground are critical to working rangeland preservation. CRT and CCALT were both formed by their respective cattlemen's associations, giving them the credibility and experience necessary to connect with ranching communities. That ranchers seek these organizations out attests to their sound advice and support of landowner goals, as well as their respect for families' decisions regarding private land.

More land trusts operate in California than in any other state, and the local and state organizations within its borders have protected the most acreage (Table 1-7). The California Rangeland Trust has contributed to this outcome, but many others also work to protect rangelands. Rangelands, of course, are just one type of landscape presenting conservation values that are worth protecting. Projects sometimes compete for limited funding, yet the Rangeland Trust has often succeeded by partnering with others (e.g. members of the Northern Sierra Partnership). The benefits of partnerships are apparent in the Sierra Valley, where multiple conservation groups have invested money, time, and sound science to conserve its unique natural areas and rural landscape. The overlapping efforts attract greater financial support and commit more staff resources to the area, thus generat-



ing greater certainty that a critical mass of open lands will be saved for wildlife, clean water, and ranching.

CRT's waiting list suggests strong interest among ranchers to protect their land, as well as an apparent lack of conservation dollars available to compensate landowners for the appraised value of conservation easements. The organization lags behind the Colorado Cattlemen's Agricultural Land Trust's efforts in both acres protected and the number of transactions completed. California needs a permanent, statewide funding mechanism available to land conservation organizations. Despite the state's overall successes in land conservation, the achievements of the past decade may slow as public funding dwindles. CCALT has a much shorter waiting list and a long list of easements to steward. Like CRT, it works closely with state and local agencies to advance rangeland conservation. Colorado has far fewer land trusts than California, but CCALT has extended itself to partners across state boundaries. CCALT and the Wyoming Stock Growers Agricultural Land Trust's successful protection of Focus Ranch demonstrates the shared mission of the Partnership of Rangeland Trusts. Together PORT's members are capable of protecting economically and ecologically significant rangelands across arbitrary political boundaries.

Overall CRT appears to be protecting larger ranch properties than CCALT. Against the backdrop of other Rangeland Trust projects in the Sierra Valley, for example the 13,120-acre Bar One and 7,947-acre DS Ranches, the Focus Ranch case study appears unusually small (Table 2-5) (CRT, 2012b). With 44 easements and nearly 250,000 acres

protected, CRT's projects average 5,682 acres, whereas CCALT's prolific volume of projects average 1,479 acres (Table 2-6). The use of conservation easements dictates that land conservation occurs on a voluntary basis, and this must be considered when accounting for the variance between CRT and CCALT's average ranch size. It is also possible that California's use of general obligation bonds has succeeded in providing large reservoirs of capital that multiple agencies and organization can tap into for expansive, costly projects (sometimes for the same project). Nonetheless, large bond measures may not continue to attract voter approval.

Narrow profits underscore the need to continue supporting ranchers and the still-vast American landscapes they steward. Conservation easements offer a voluntary path for landowners to realize income or tax savings from working lands, possibly to be reinvested in agricultural operations. Whereas subdivision and development may yield substantial profits at the expense of a continued rural lifestyle and earnings, agricultural easements protect that heritage. The corollary benefits of extinguishing development rights include tax credits and reductions in the estate liability faced by future generations of ranchers interested in taking over. No tool guarantees that land will remain agriculturally productive, but conservation easements keep that possibility alive; development and pavement preclude such a future.

### 3.1 FUTURE RESEARCH

This paper is intentionally limited in scope, and presents several areas for additional research. I have explored, at some depth, rangeland preservation in California and Colorado, providing agricultural trends in Montana and New Mexico for context. An expanded study of states in the Rocky Mountain and Pacific regions would provide greater insight into grazing, land use, and rangeland protection in the West. Montana, New Mexico, and Wyoming should be examined, as each of these states hosts an active statewide agricultural land trust (Table 1-8). The relationship of ranchers with federal grazing lands may differ in these states. For example, ranchers in Montana and New Mexico purchase more grazing permits and leases on BLM land. New Mexico's volume is nearly double that of Colorado, while Montana's permit and lease volume exceeds California's by an order of magnitude (Table 1-3). Also worth considering are the animal unit months (AUMs), or the time that livestock graze on public lands. There may be surprising variations in the volume of leases compared to AUMs, as occurs in Nevada, where ranchers hold only 628 permits and leases, yet record over 2 million AUMs—more than Montana (U.S. Bureau of Land Management, 2009). This suggests that some of New Mexico's ranchers depend more heavily on federal grazing lands than neighboring livestock growers.

Regarding conservation attitudes, Kreuter et al. (2006) note:

“Landowners in states with significant areas of public land might be less resistant to managing land in ways that enhance the delivery of socially desirable ecosystem services compared to landowners in private land states...landowners who depend on pub-

lic land for forage and are, therefore, subject to various restrictions on the use of public rangelands might have a greater general sense of social responsibility regarding the delivery of ecosystem services from rangelands.” (pp. 637-638)

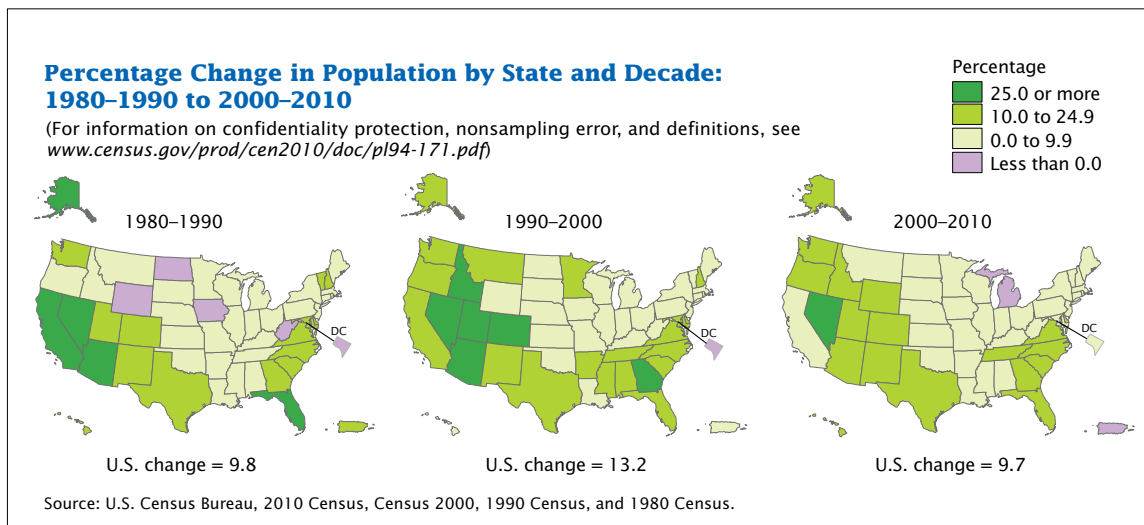
Conservation ballot activity may also differ considerably from California and Colorado’s vibrant showing. Montana and New Mexico had much less activity over time spans similar to those presented in Tables 2-3 and 2-7. Is this a primary factor in the total conservation spending shown in Table 2-1? Can Montana Land Reliance’s impressive conservation outcomes (Table 1-8) be explained by lower land values, a strong land ethic among the state’s ranchers, and the organization’s founding over thirty years ago?

There is an accompanying need for spatial analysis to measure conservation outcomes in ranching communities. A single organization’s projects may be revealed as disperse and unconnected, yet spatial analysis may illustrate a network of lands protected by multiple organizations working in the same region, or not. For instance, CRT’s accomplishments alone cannot produce a complete picture of rangeland preservation in California as other large (e.g. TNC) and small (e.g. Feather River Land Trust) organizations share the same goals. One must ultimately consider whether large, contiguous blocks of land are being protected. This must always be tempered with the knowledge that: (1) Land conservation of private property is largely voluntary (and entirely voluntary when conservation easements are used); and (2) reputable land trusts use strategic criteria to prioritize their projects (e.g. the proximity of candidate properties to protected land). Knight (2007) examined the relationship between land ownerships near to and adjacent to public

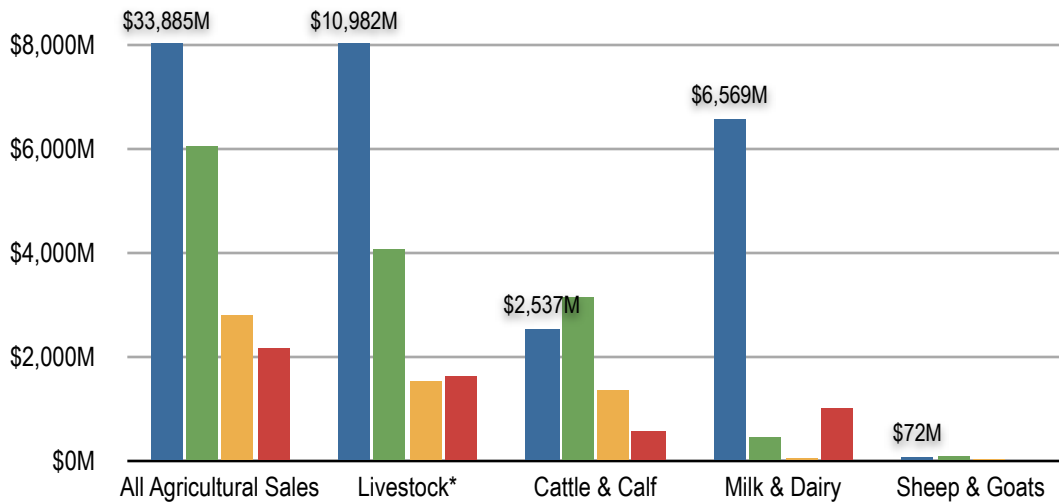
grazing allotments. More should be done to expand this type of research to include permanently protected rangelands and their proximity to public lands.

Finally, the USDA is staged to conduct a new Survey of Agricultural this year. The findings, when released, should be compared to data presented here from the 2007 survey. Recent trends in agricultural land changes and economics will better capture the effects of the U.S. economic recession and housing market bubble.

## APPENDIX OF FIGURES

**Figure 1-1: Population Change in the U.S.**

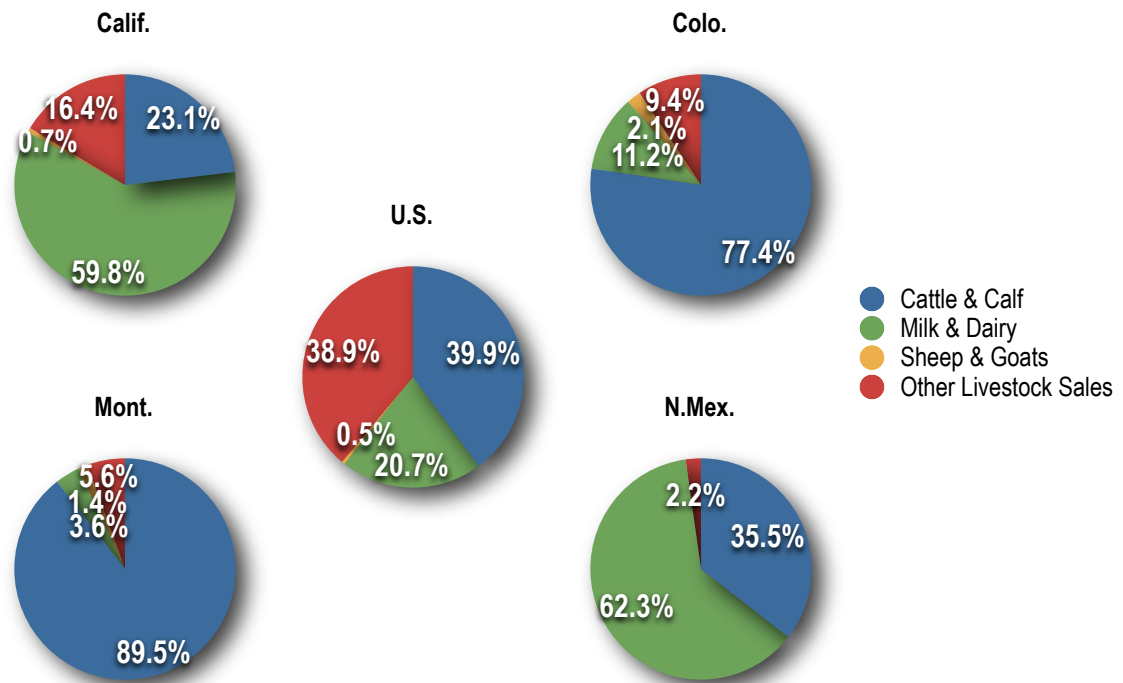
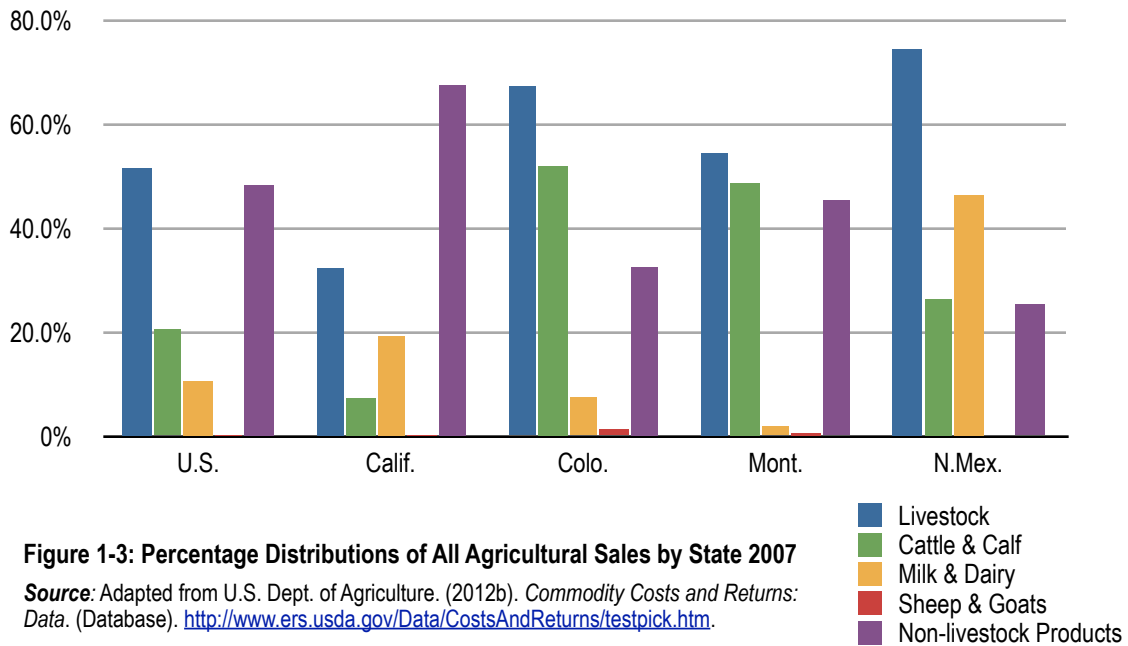
**Source:** U.S. Census Bureau. (2011b, March). *Population distribution and change: 2000 to 2010*, C2010BR-01, Washington, DC: Mackun, P, & Wilson, S. (Eds.).

**Figure 1-2: Gross Sales of Select Livestock Categories by State 2007**

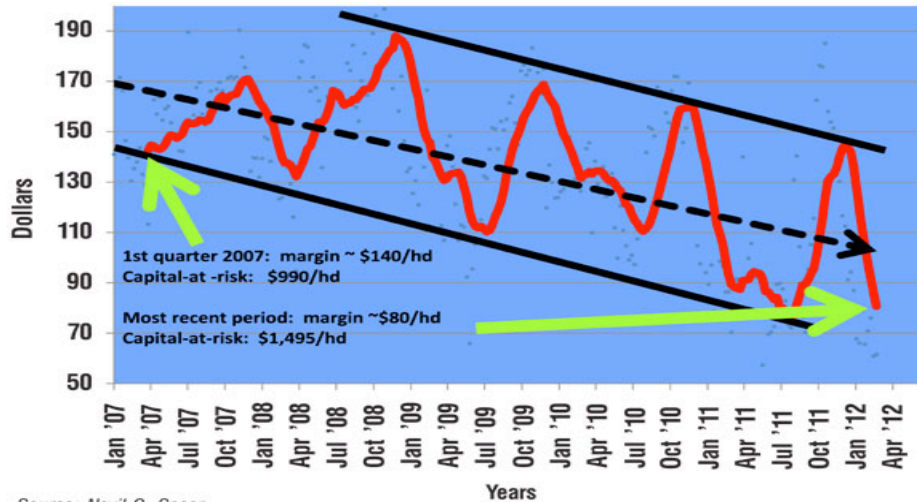
\*Livestock values include poultry, hog, specialty (e.g. horse), and aquaculture operations in addition to categories shown

**Source:** Adapted from U.S. Dept. of Agriculture. (2012b). *Commodity Costs and Returns: Data*. (Database). <http://www.ers.usda.gov/Data/CostsAndReturns/testpick.htm>.

Calif.  
Colo.  
Mont.  
N.Mex.

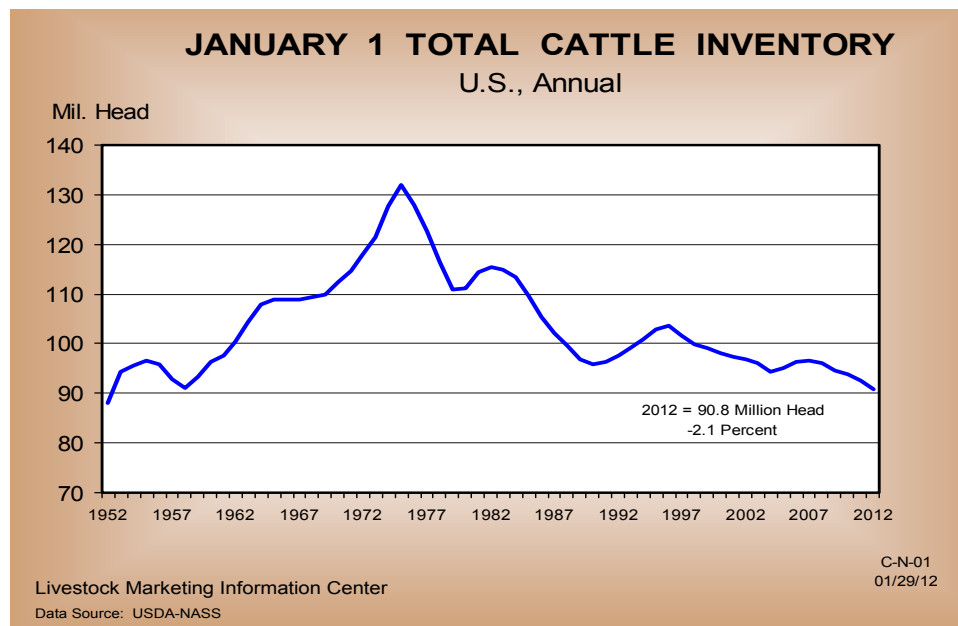


**Figure 1** Weekly crush: Deferred live cattle futures less nearby feeder cattle/corn futures (63-2 contracts respectively) 13-week moving average (\$/head) thru week ending Feb. 24, 2012



**Figure 1-5: Cattle Crush Margin**

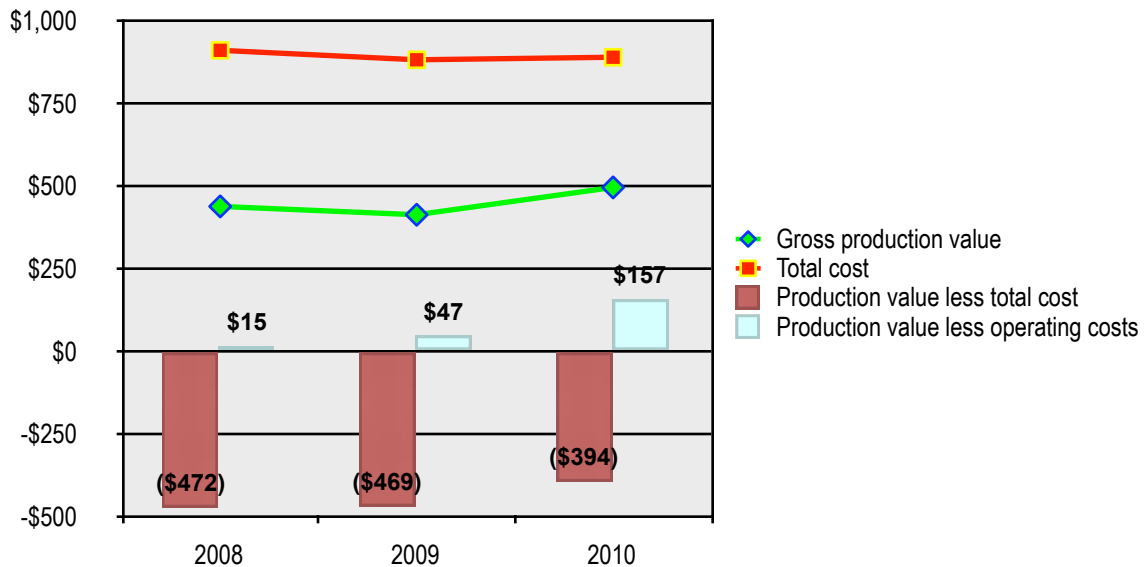
**Source:** Speer, N. (2012, February 29). Managing today's downside risk is critical. *Beef Magazine.com*.  
<http://beefmagazine.com/print/marketing/managing-today-s-downside-risk-critical>.



**Figure 1-6: U.S. Cattle Inventory 2012**

**Source:** Livestock Marketing Information Center. (2012, Feb. 27). Livestock Monitor. Denver, CO: Author.  
<http://www.lmic.info/memberspublic/pubframes.html>.

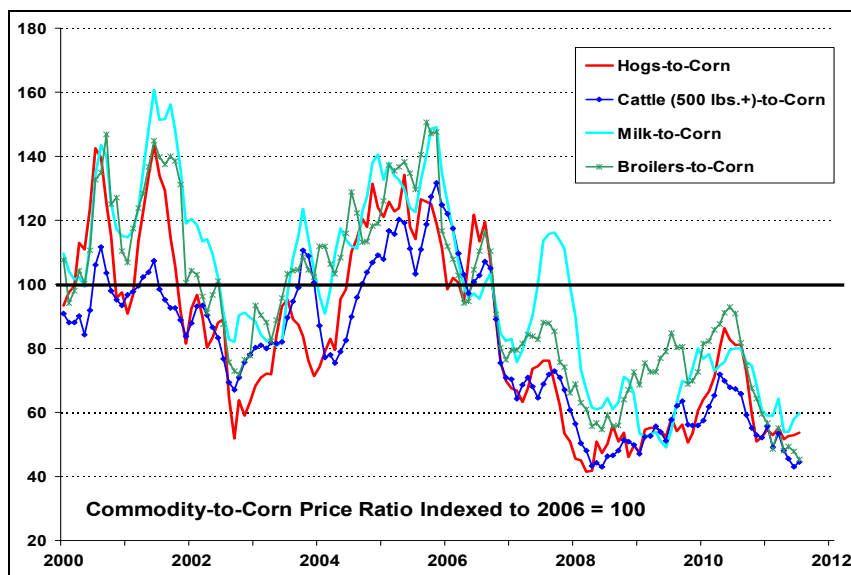




**Figure 1-7: Costs versus Returns per Bred Cow**

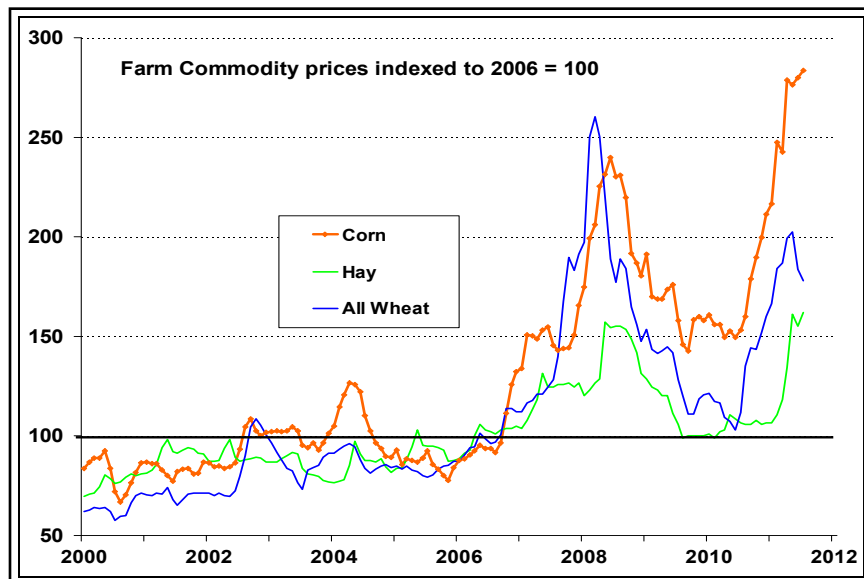
**Source:** Adapted from: (1) U.S. Dept. of Agriculture. (2009). *2007 Census of Agriculture: United States Summary and State Data*, AC-07-A-51, Washington, DC: Author.

(2) U.S. Dept. of Agriculture. (2011d). *Recent Costs and Returns, United States and ERS Farm Resource Regions, New Format and Regions: "Basin and Range," "Fruitful Rim."* [Data file]. <http://www.ers.usda.gov/Data/CostsAndReturns/testpick.htm>.



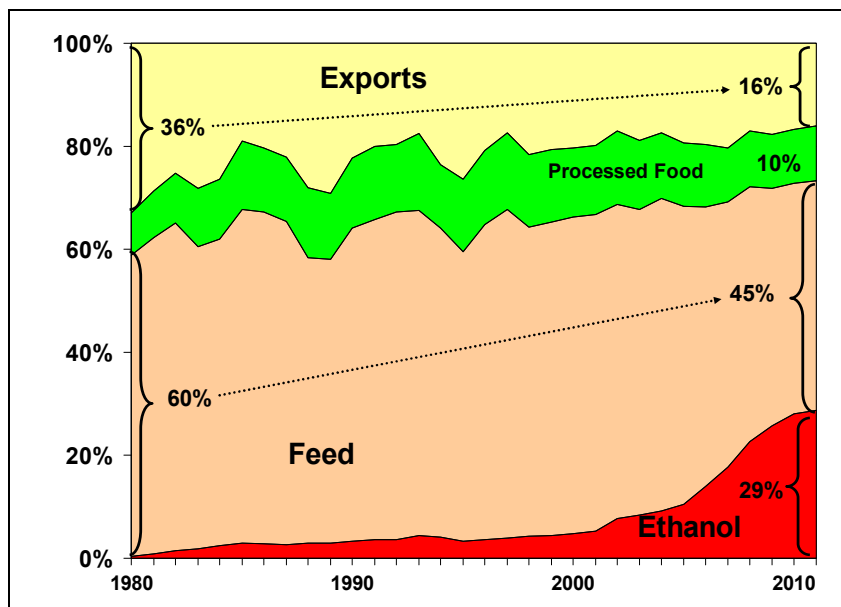
**Figure 1-8: Livestock-to-Corn Value Trend**

**Source:** Schnepf, R. (2011). *U.S. livestock and poultry feed use and availability: Background and emerging issues*, 7-5700 R41956, Washington, DC: Congressional Research Service.



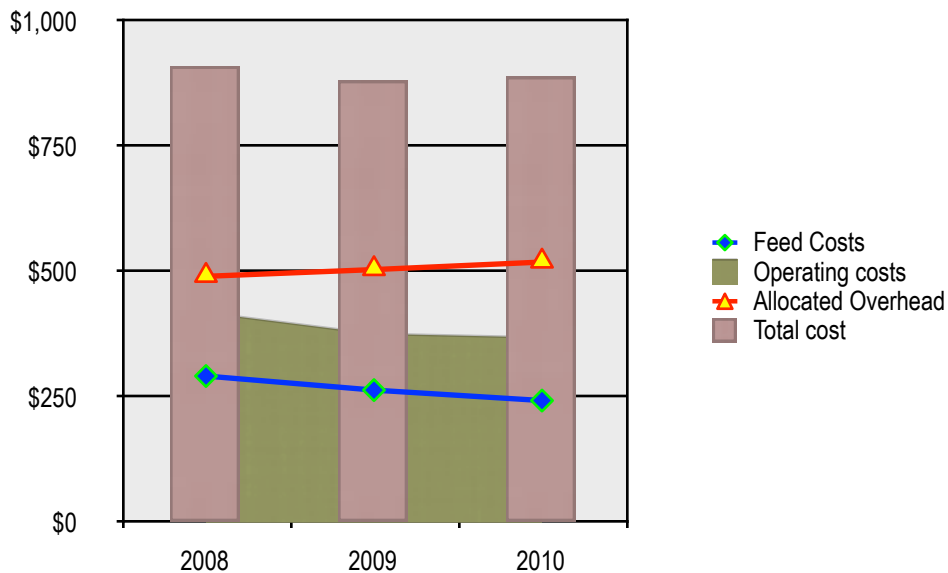
**Figure 1-9: Corn and Feed Crop Trends**

**Source:** Schnepf, R. (2011). *U.S. livestock and poultry feed use and availability: Background and emerging issues*, 7-5700 R41956, Washington, DC: Congressional Research Service.



**Figure 1-10: Redistribution of Corn Supplies with Ethanol Production**

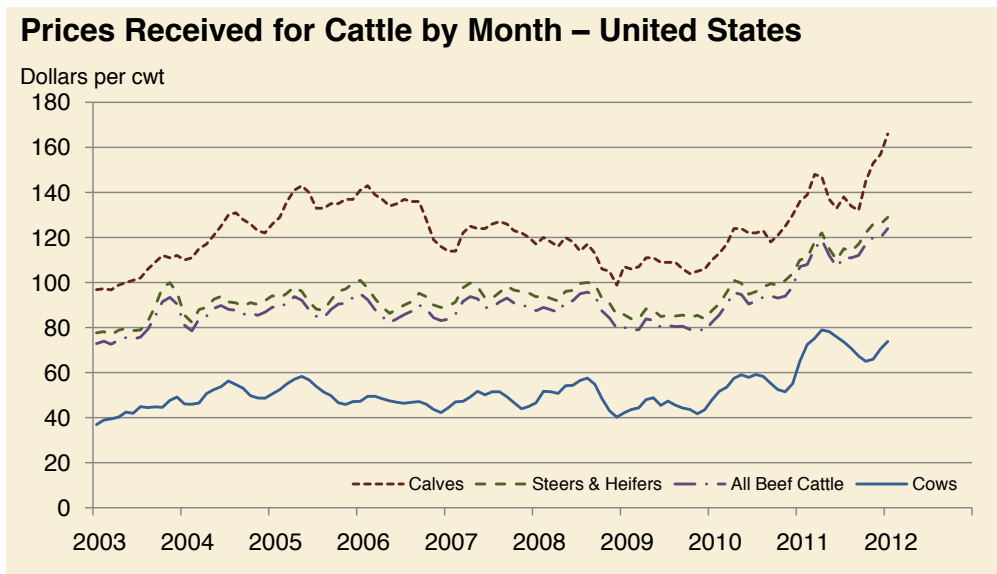
**Source:** Schnepf, R. (2011). *U.S. livestock and poultry feed use and availability: Background and emerging issues*, 7-5700 R41956, Washington, DC: Congressional Research Service.



**Figure 1-11: Cost per Bred Cow**

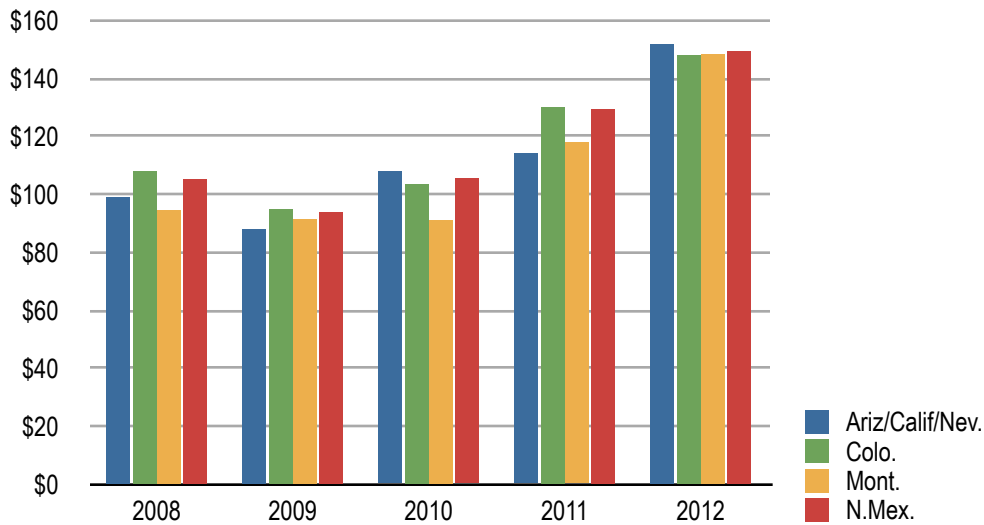
**Source:** Adapted from: (1) U.S. Dept. of Agriculture. (2009). *2007 Census of Agriculture: United States Summary and State Data*, AC-07-A-51, Washington, DC: Author.

(2) U.S. Dept. of Agriculture. (2011d). *Recent Costs and Returns, United States and ERS Farm Resource Regions, New Format and Regions: "Basin and Range," "Fruitful Rim."* [Data file]. <http://www.ers.usda.gov/Data/CostsAndReturns/testpick.htm>.



**Figure 1-12: Cattle Prices 2003 - 2012**

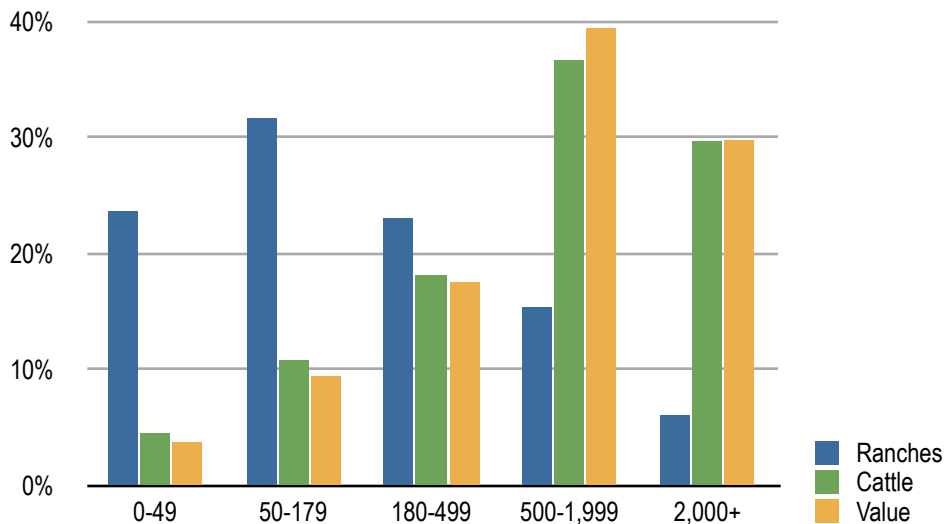
**Source:** U.S. Dept. of Agriculture. (2012, January 13). *Agricultural prices, 1937-4216*, Washington, DC: National Agricultural Statistics Service. <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1002>.



**Figure 1-13: Sample Cattle Prices per Head**

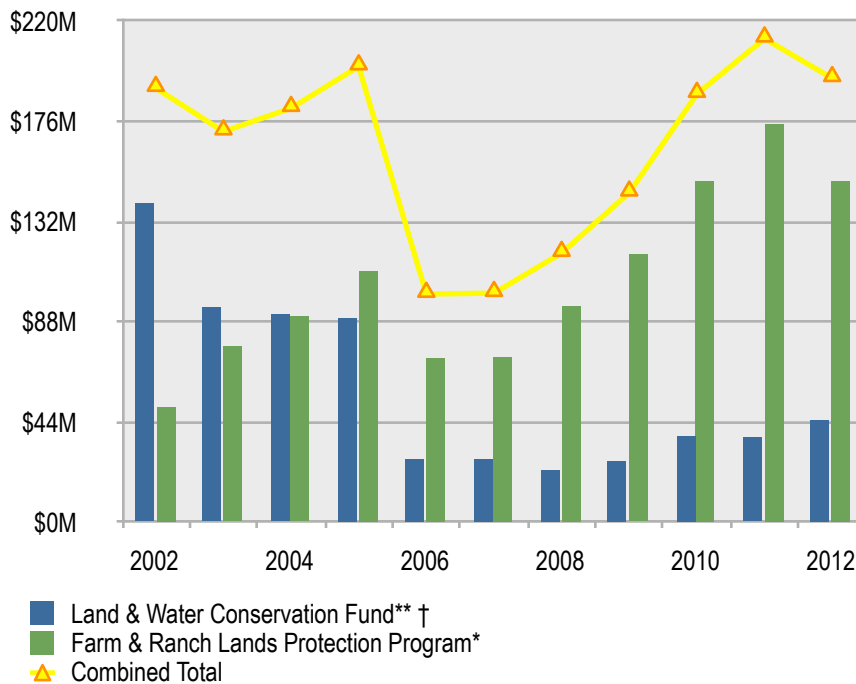
Prices averaged for feeder cattle (steers and/or heifers) weighing 700 - 800 lbs. Samples selected during a week of high sales activity (varies by state/region) to produce a high volume sample.

**Source:** Adapted from U.S. Dept. of Agriculture. (2012d, February). *Livestock and grain market news*. Agricultural Marketing Service. Retrieved March 1, 2012 from <http://www.ams.usda.gov/AMSV1.0/LivestockandSeed>.



**Figure 1-14: Market Share by Acreage of Cattle and Calf Farms 2007**

**Source:** Adapted from U.S. Dept. of Agriculture. (2012b). *Commodity Costs and Returns: Data*. (Database). Retrieved March 7, 2012 from <http://www.ers.usda.gov/Data/CostsAndReturns/testpick.htm>.



**Figure 1-15: Federal Land Conservation Program Allocations**

\*FRPP figures for years 2002 - 2009 represent actual state appropriations from the fund for easement acquisitions and technical assistance; years 2010 - 2012 show the full allocation enacted by Congress.

\*\*LWCF figures represent allocations to the states, excluding federal program amounts. Starting with FY 2009 figures include supplemental apportionments from the Gulf of Mexico Energy Security Act.

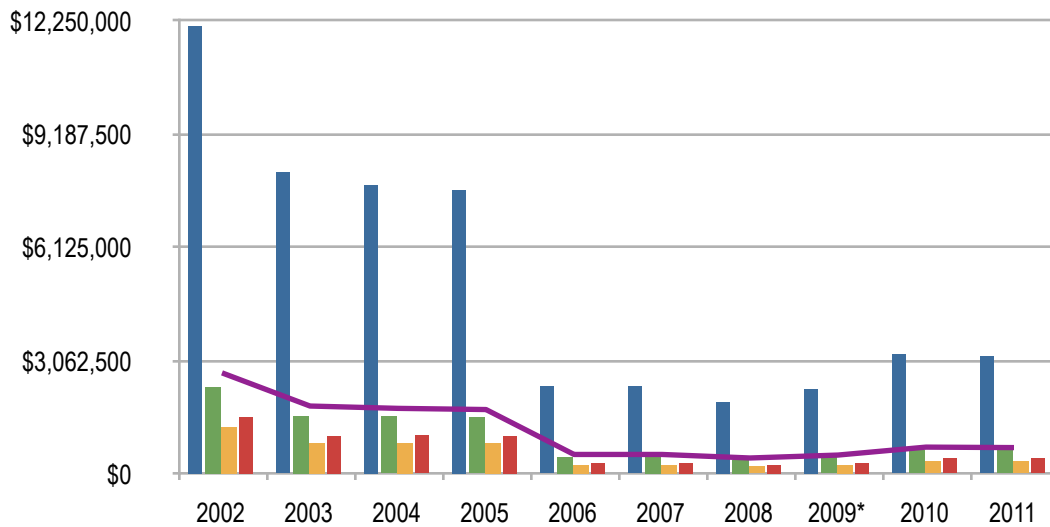
†The FY 2012 LWCF value shown is the full state allocation enacted by Congress.

**Source:** Adapted from: (1) American Farmland Trust. (2010b, January). *Farm and Ranch Lands Protection Program*. (Fact Sheet). Retrieved February 8, 2012 from <http://www.farmland.org/resources/publications/default2.asp>.

(2) Land Trust Alliance. (2012b). *Public funding*. Retrieved March 29, 2012 from <http://www.landtrustalliance.org/policy/public-funding>.

(3) U.S. Dept. of the Interior: National Park Service. (2012a). *Land and Water Conservation Fund: Funding status*. Retrieved March 28, 2012 from <http://www.nps.gov/ncrc/programs/lwcf/funding.html>.

(4) U.S. Dept. of the Interior: National Park Service. (2012b). *2011 Annual report: Funding and protecting parks where you live*. Washington, DC: Land and Water Conservation Fund.

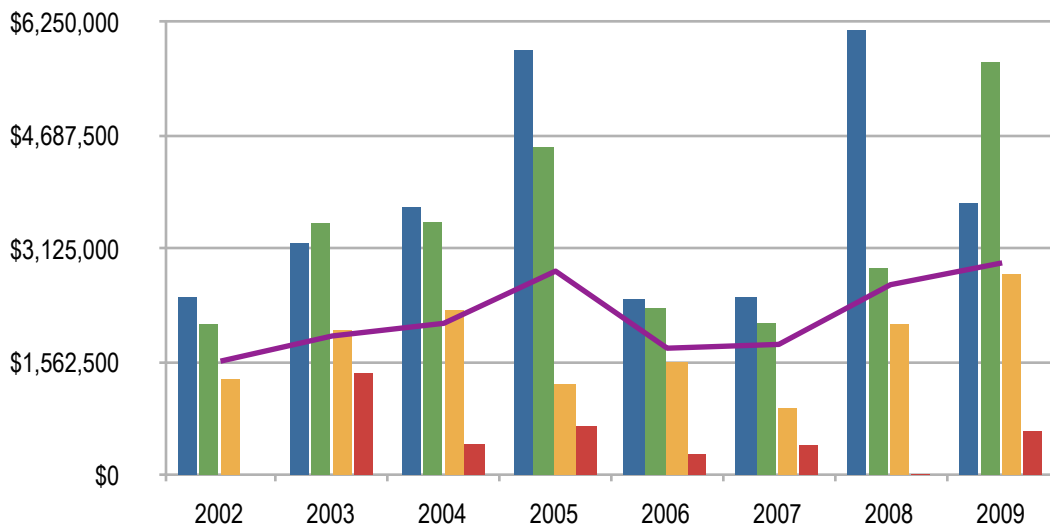


**Figure 1-16: State Apportionments: Land and Water Conservation Fund**

\*Starting with FY 2009 figures include supplemental apportionments from the Gulf of Mexico Energy Security Act.

**Source:** Adapted from U.S. Dept. of the Interior: National Park Service. (2012a). Land and Water Conservation Fund: Funding status. Retrieved March 28, 2012 from <http://www.nps.gov/ncrc/programs/lwcf/funding.html>.

Calif.  
Colo.  
Mont.  
N.Mex.  
50 U.S. States Avg.

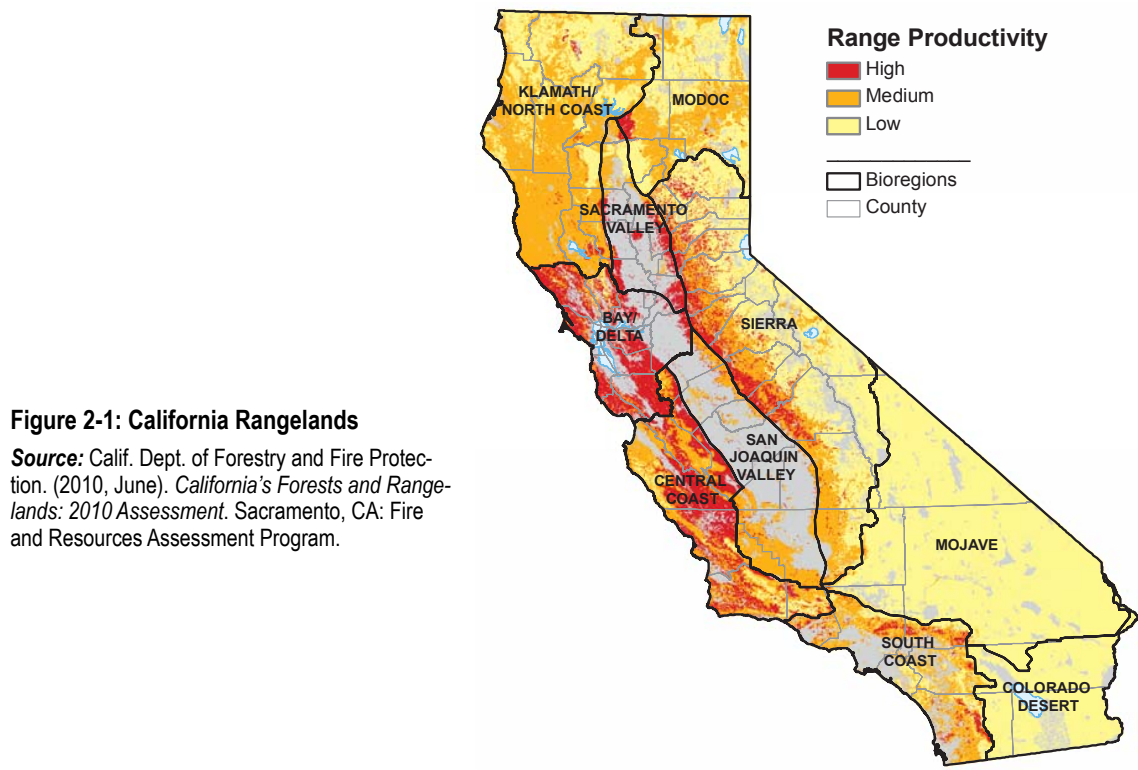


**Figure 1-17: State Apportionments: Farm and Ranch Lands Protection Program**

\*Based on number of states receiving at least \$100,000 in a given year

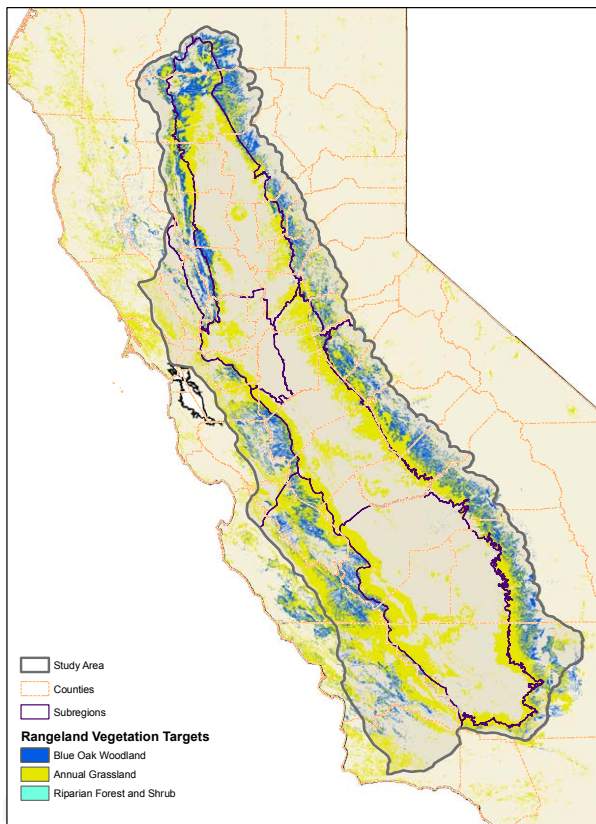
**Source:** Adapted from U.S. Dept. of the Interior: National Park Service. (2012a). Land and Water Conservation Fund: Funding status. Retrieved March 28, 2012 from <http://www.nps.gov/ncrc/programs/lwcf/funding.html>.

Calif.  
Colo.  
Mont.  
N.Mex.  
U.S. Avg.\*



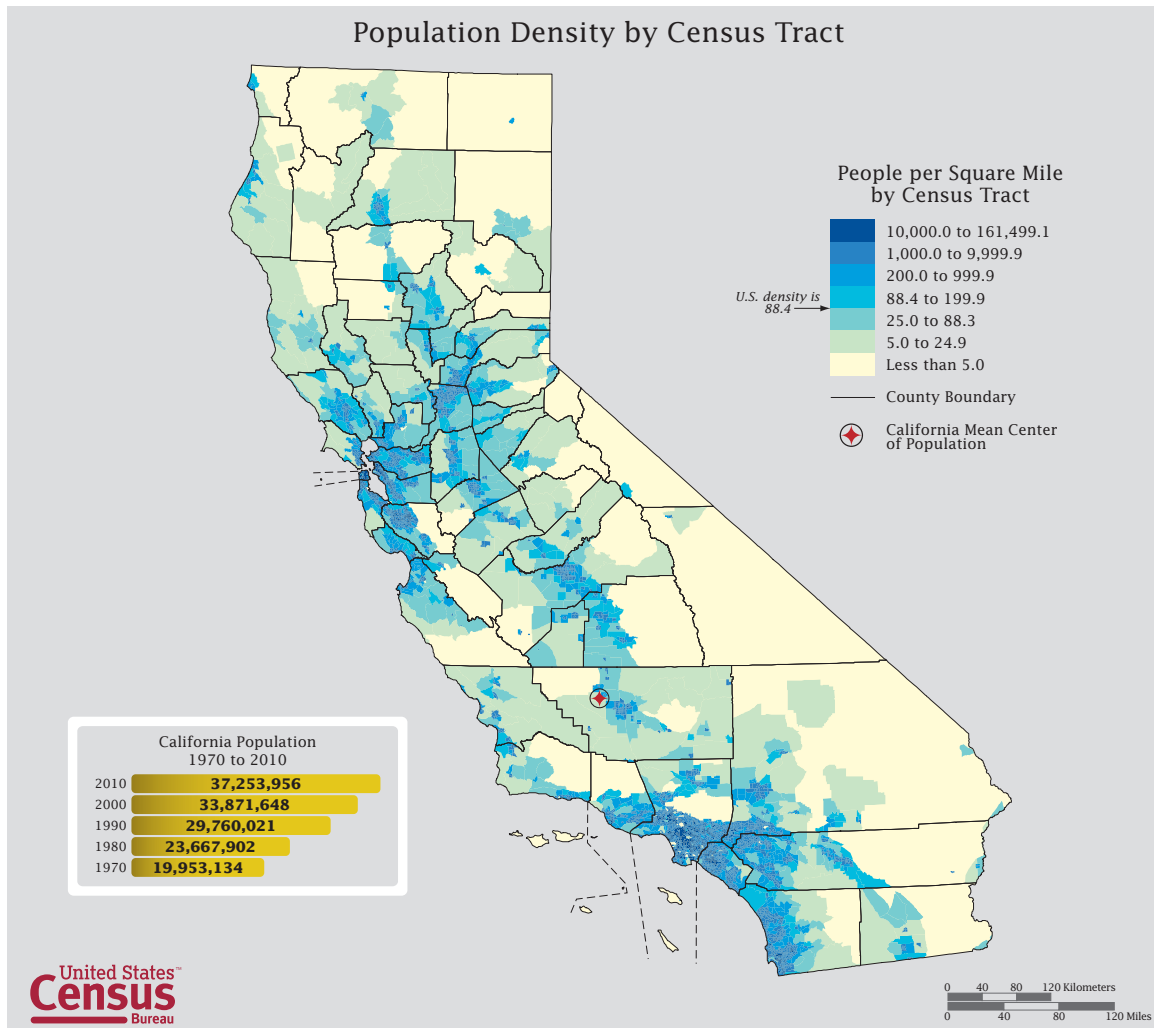
**Figure 2-1: California Rangelands**

**Source:** Calif. Dept. of Forestry and Fire Protection. (2010, June). *California's Forests and Rangelands: 2010 Assessment*. Sacramento, CA: Fire and Resources Assessment Program.



**Figure 2-2: Rangeland Vegetation Communities**

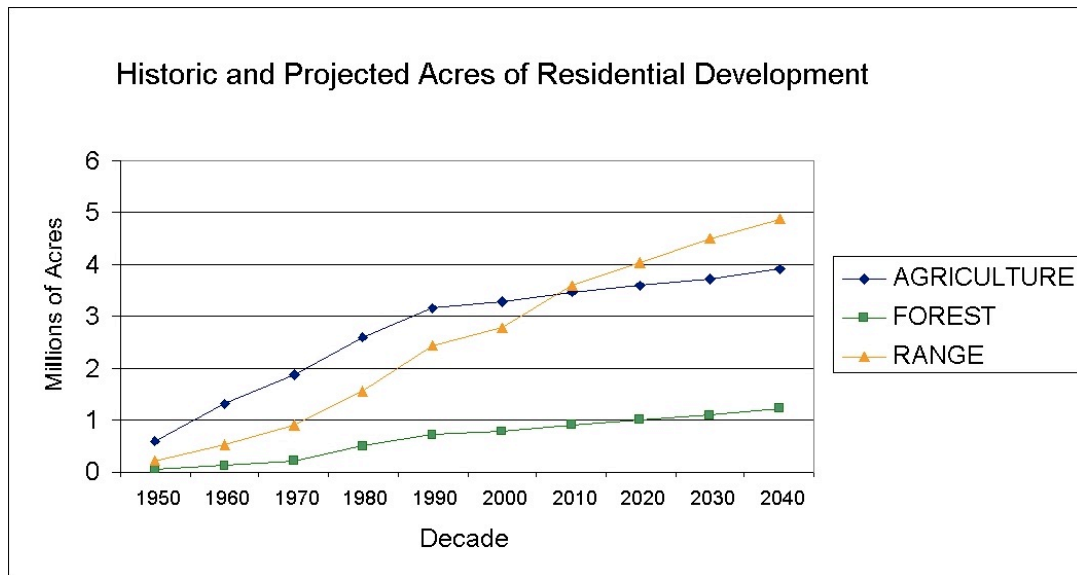
**Source:** California Rangeland Conservation Coalition. (2007, August 6). *Biological prioritization of rangelands: Approach and methods*. The Nature Conservancy [ed.].



**Figure 2-3: California Population 2010**

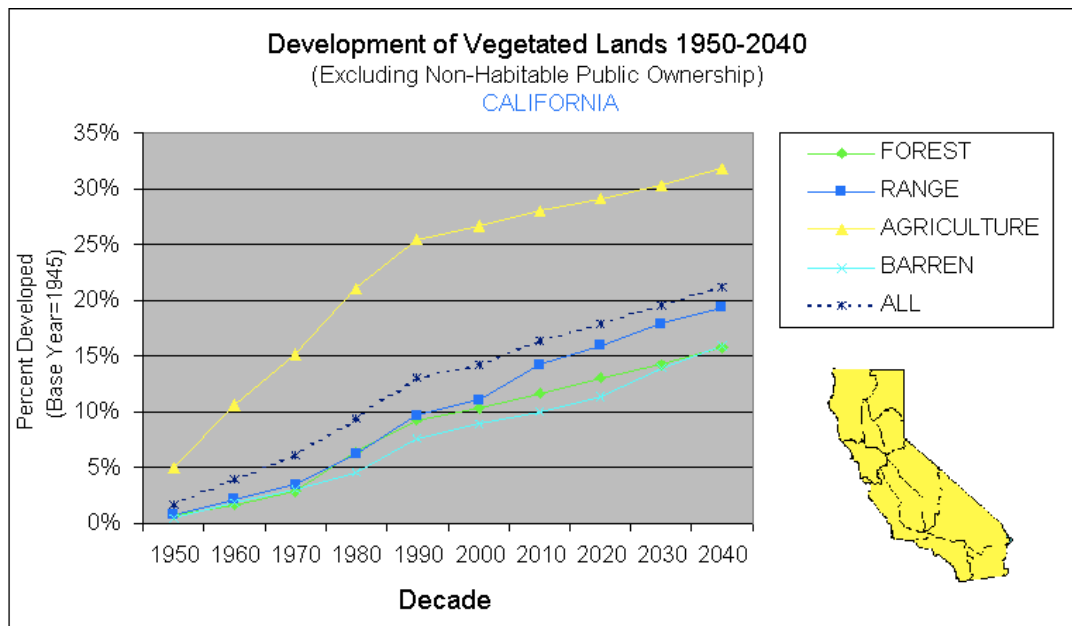
**Source:** U.S. Census Bureau. (2011). *2010 Census population profile maps*. Retrieved January 30, 2012 from [http://www.census.gov/geo/www/maps/2010\\_census\\_profile\\_maps/census\\_profile\\_2010\\_main.html](http://www.census.gov/geo/www/maps/2010_census_profile_maps/census_profile_2010_main.html).





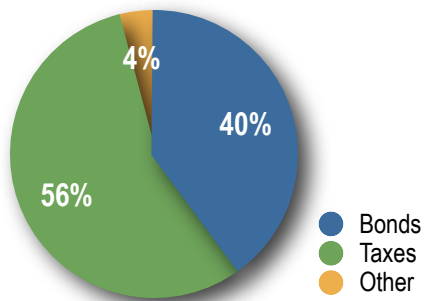
**Figure 2-4: Projected Residential Development of Working Lands**

**Source:** Spero, J. G. (2001, November). *Development and vegetation trends*. [technical working paper]. Sacramento, CA: Calif. Dept. of Forestry and Fire Protection: Fire and Resource Assessment Program.  
[http://frap.cdf.ca.gov/projects/development\\_vegetation/index.html](http://frap.cdf.ca.gov/projects/development_vegetation/index.html).



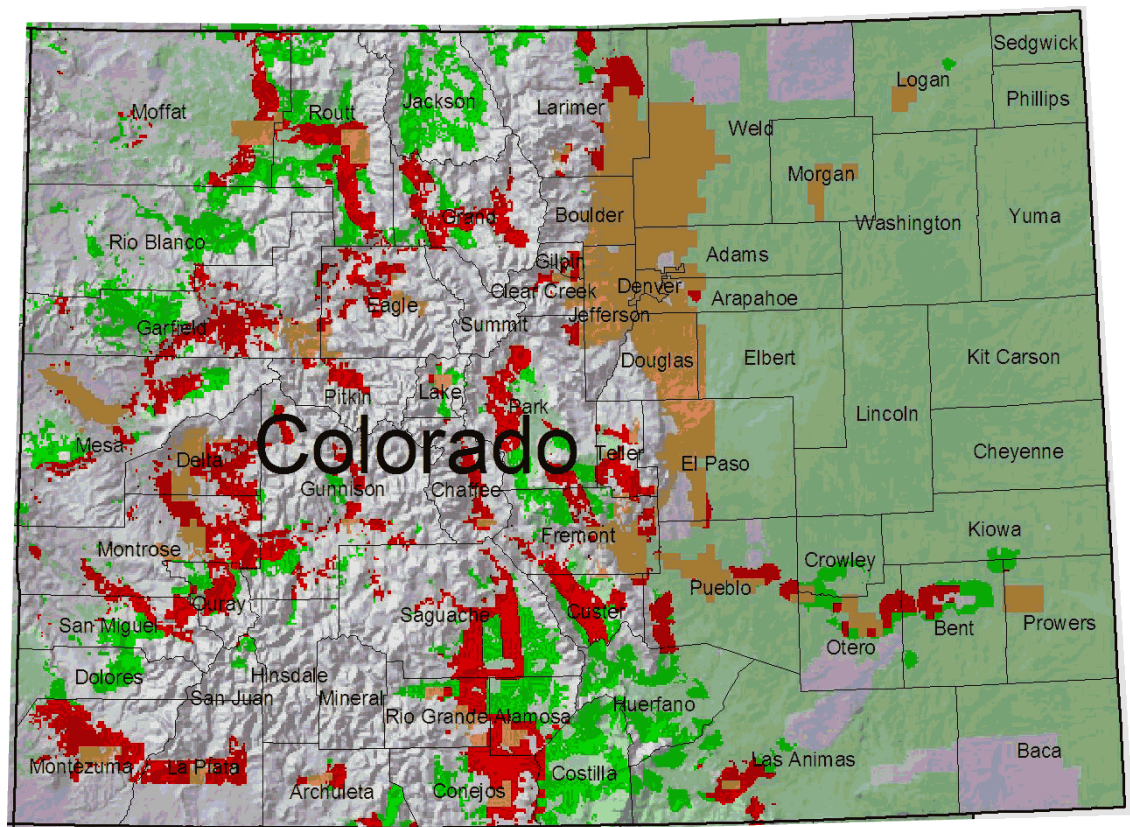
**Figure 2-5: Projected Percentage of Working Landscapes Developed**

**Source:** Spero, J. G. (2001, November). *Development and vegetation trends*. [technical working paper]. Sacramento, CA: Calif. Dept. of Forestry and Fire Protection: Fire and Resource Assessment Program.  
[http://frap.cdf.ca.gov/projects/development\\_vegetation/index.html](http://frap.cdf.ca.gov/projects/development_vegetation/index.html).



**Figure 2-6: California Ballot Measure Blend 1988 - 2011**

**Source:** Adapted from The Trust for Public Land. (2012). *LandVote*. [Database]. Retrieved February 29, 2012 from <https://www.quickbase.com/db/bbqna2qct?a=dbpage&pageID=10>.

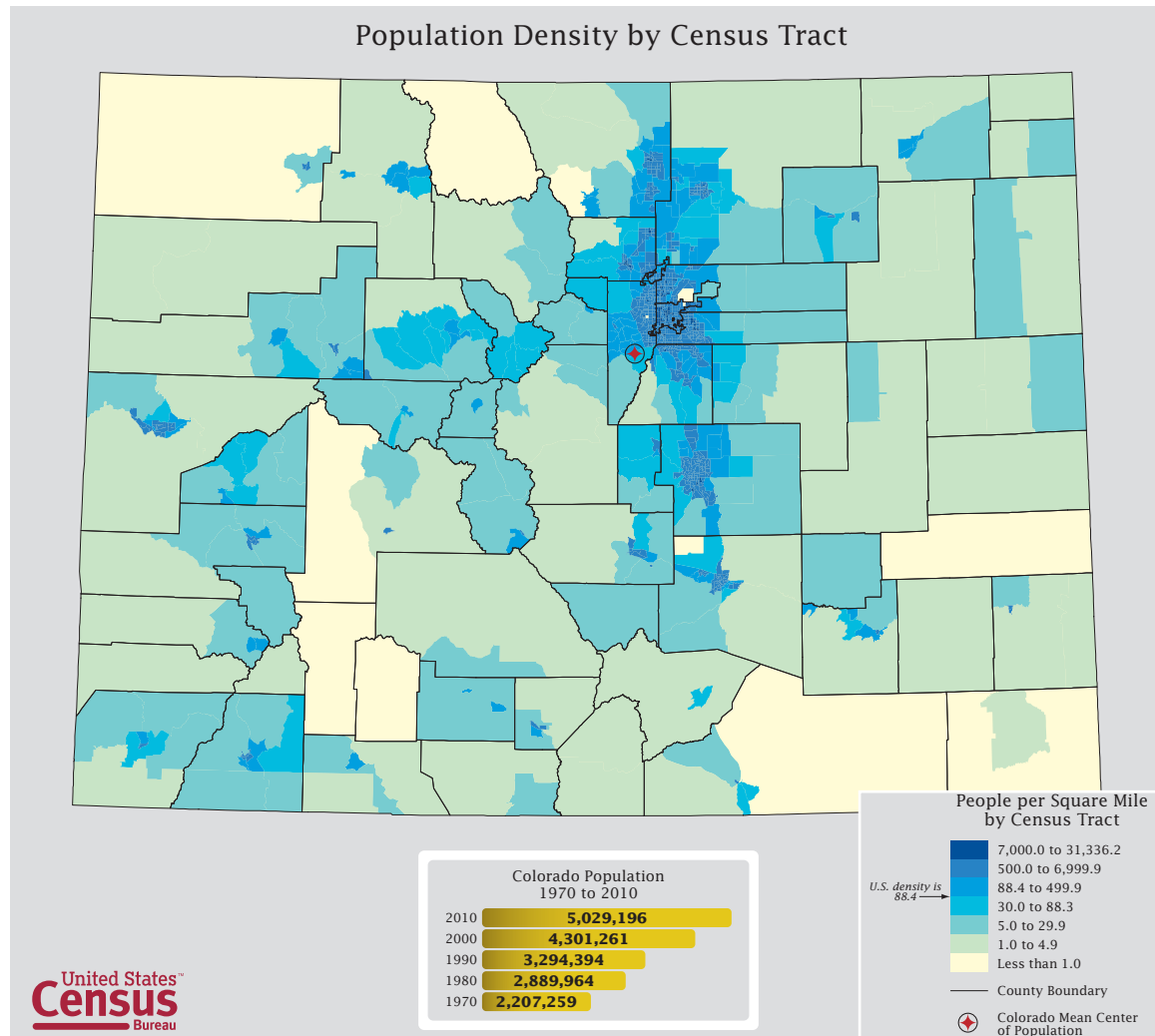


**Map Legend**

- Strategic Ranchland at Risk
- Prime Ranchland
- Private Land
- Urban Area
- Federal Land
- Water

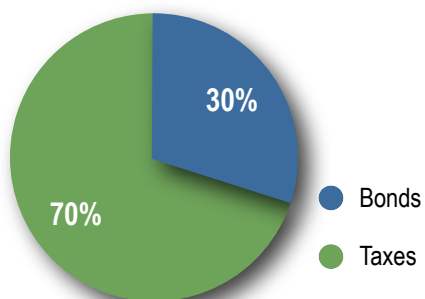
**Figure 2-7: Colorado Ranchland and Development Pressure**

**Source:** American Farmland Trust. (2012). *Strategic ranchland in the rocky mountain west: Mapping threats to prime ranchland in seven western states*. Retrieved January 10, 2012 from <http://www.farmland.org/resources/rockymtn/default.asp>.



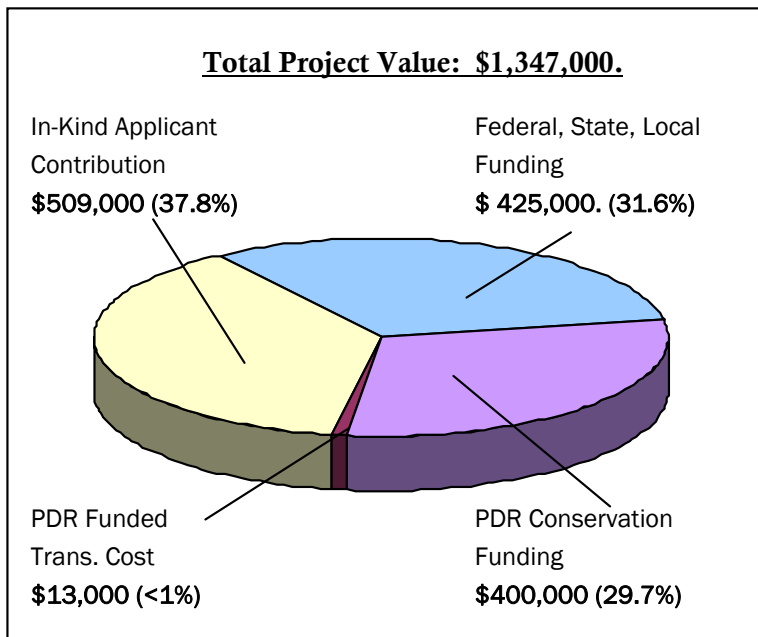
**Figure 2-8: Colorado Population 2010**

**Source:** U.S. Census Bureau. (2011). *2010 Census population profile maps*. Retrieved January 30, 2012 from [http://www.census.gov/geo/www/maps/2010\\_census\\_profile\\_maps/censusprofile\\_2010\\_main.html](http://www.census.gov/geo/www/maps/2010_census_profile_maps/censusprofile_2010_main.html).



**Figure 2-9: Colorado Ballot Measure Blend 1989 - 2011**

**Source:** Adapted from The Trust for Public Land. (2012). *LandVote*. [Database]. Retrieved February 29, 2012 from <https://www.quickbase.com/db/bbqna2qct?a=dbpage&pageID=10>.



**Figure 2-10: Focus Ranch Conservation Easement Project Budget (Colorado)**

**Source:** Routt County Purchase of Development Rights Citizens Advisory Board. (2011). *Routt County Purchase of Development Rights Program: Progress report January 2011*. Steamboat Springs, CO: Author. <http://www22.pair.com/routt/>.

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